71st Congresso Brasileiro de Cardiologia

SBC-AHA Session: Best Cardiology Clinical Practices (BPC) Program in Brazil: Bases & Principles

Managing CVD Risk to Reduce Premature Mortality – Are We There Yet?

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Cardiovascular Disease Scientist
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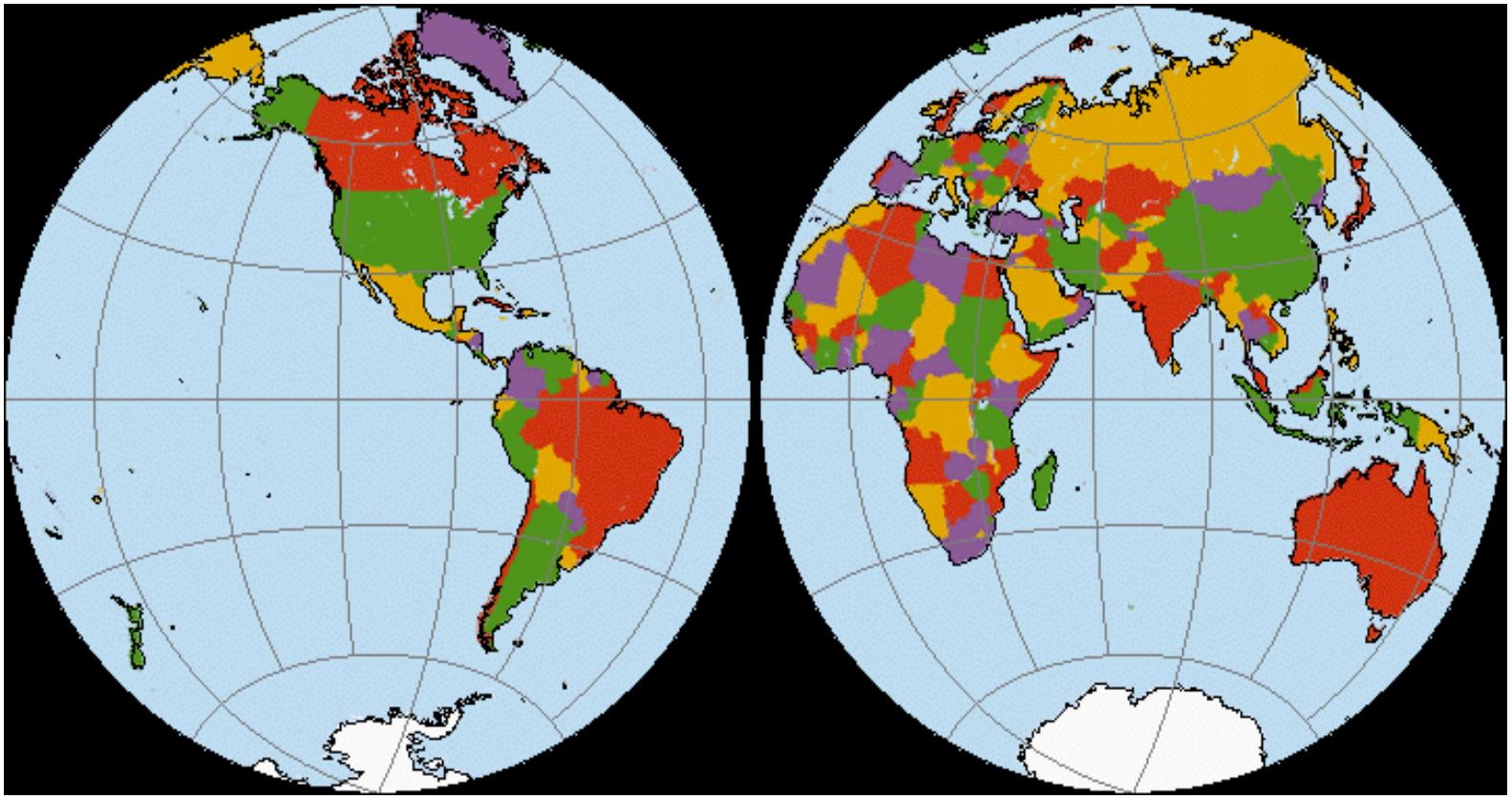
Univ. of Texas Southwestern Medical School

Statement on Relationships with Industry

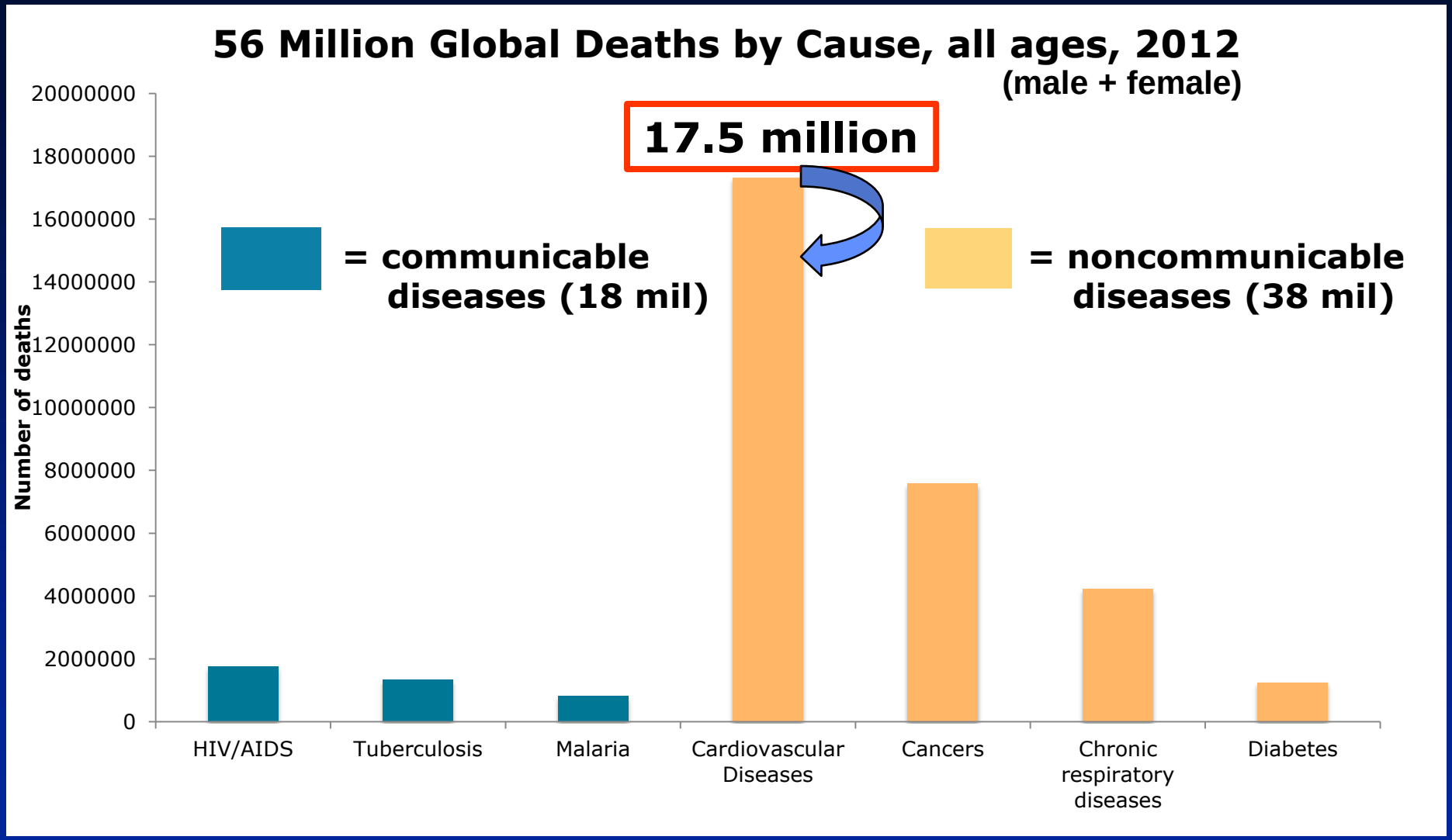
I have no relationships, relevant or otherwise, with industry.

-- KA Taubert, 24 September, 2016

CVD: Global Burden…Global Risk



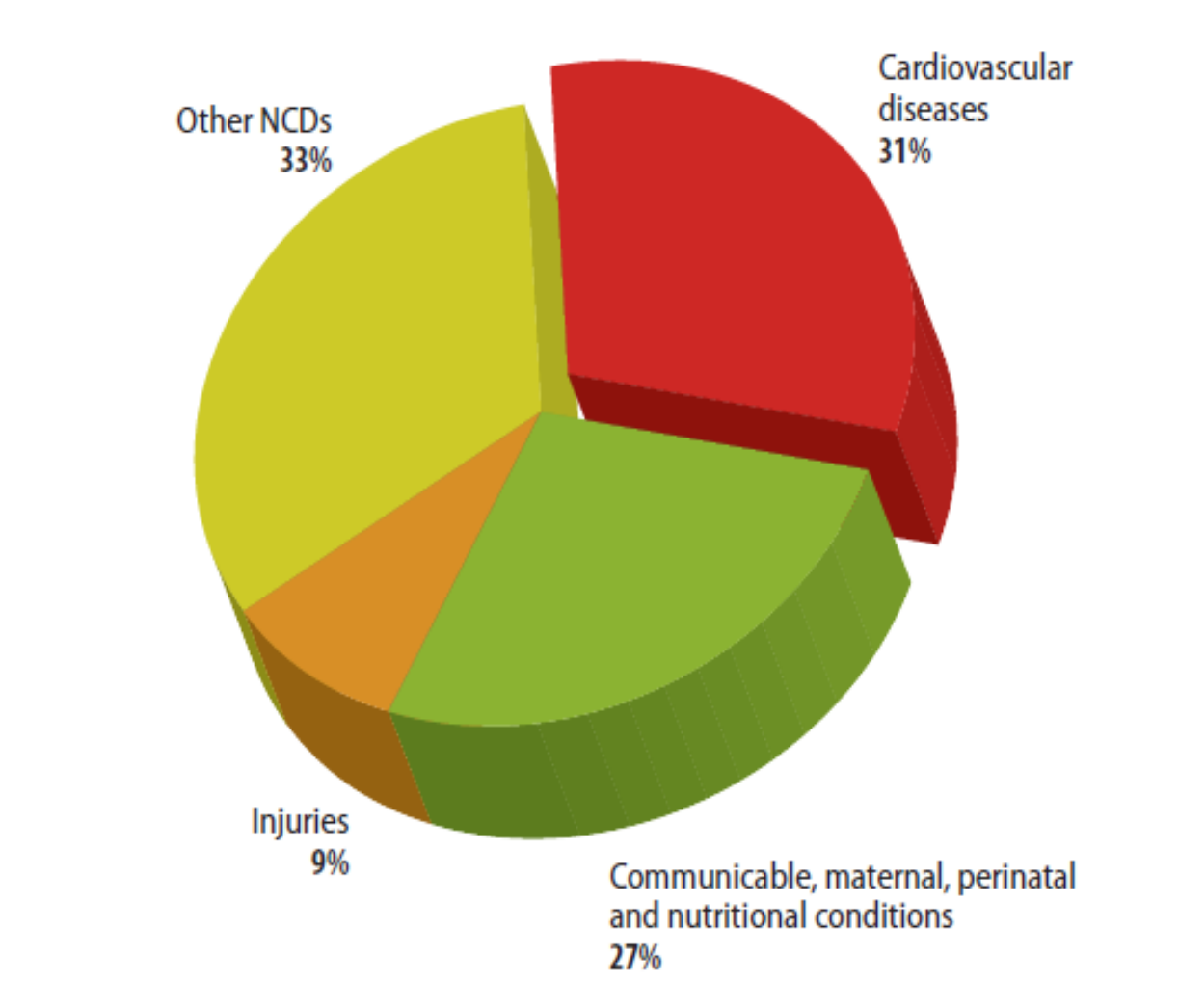
CVD = Cardiovascular disease; includes heart diseases and stroke

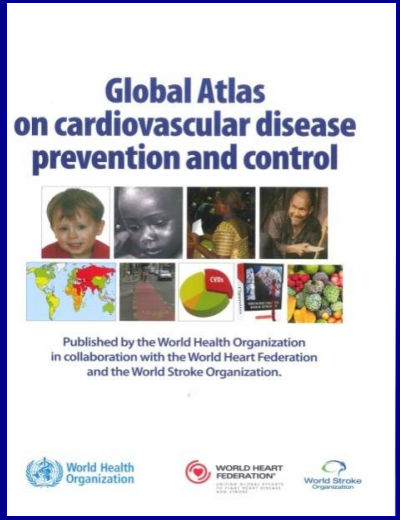


56 million global deaths in 2012
68% from NCDs
46% of NCD deaths due to CVD

Data from WHO

Distribution of major causes of death globally





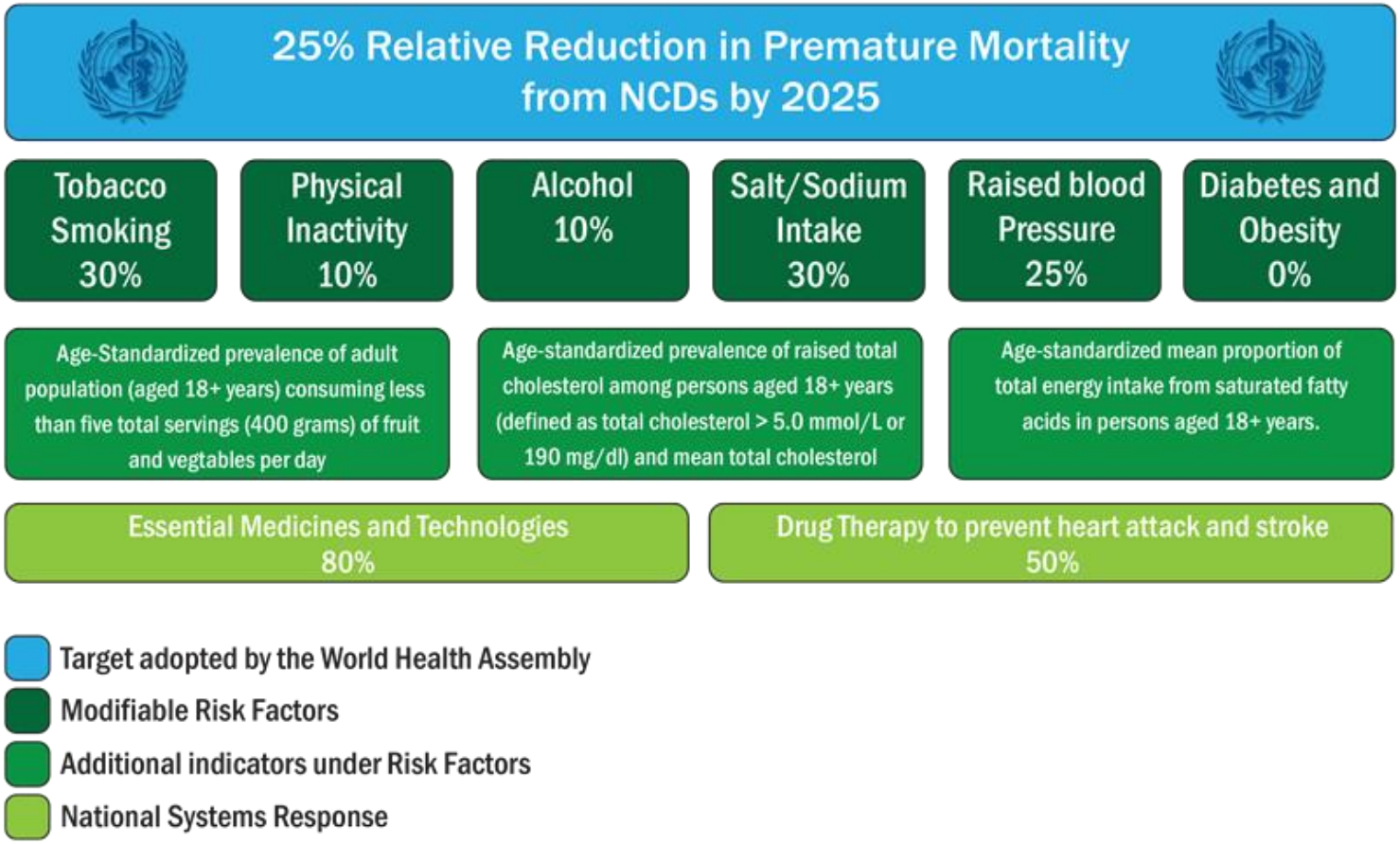
From: Global Atlas on cardiovascular prevention and control. 2011. Published by WHO, WHF, WSO. S. Mendis, P. Puska and B. Norrving, eds.

Action at UN and WHO

Recognizing the human suffering, growing burden and socio-economic impact of NCDs in all countries, the UN held a High-Level Meeting on NCDs on Sept. 19-20, 2011.

WHO Global NCD Goal, Targets & Indicators

Adopted by Member States May 2012



World Health Organization

Circulation
JOURNAL OF THE AMERICAN HEART ASSOCIATION

Global Burden of Cardiovascular Disease

Worldwide Exposures to Cardiovascular Risk Factors and Associated Health Effects

Current Knowledge and Data Gaps

Ioanna Tzoulaki, PhD; Paul Elliott, MBBS, PhD; Vasilis Kontis, PhD; Majid Ezzati, PhD

***Abstract*—**Information on exposure to, and health effects of, cardiovascular disease (CVD) risk factors is needed to develop effective strategies to prevent CVD events and deaths. Here, we provide an overview of the data and evidence on worldwide exposures to CVD risk factors and the associated health effects. Global comparative risk assessment studies have estimated that hundreds of thousands or millions of CVD deaths are attributable to established CVD risk factors (high blood pressure and serum cholesterol, smoking, and high blood glucose), high body mass index, harmful alcohol use, some dietary and environmental exposures, and physical inactivity. The established risk factors plus body mass index are collectively responsible for ≈9.7 million annual CVD deaths, with high blood pressure accounting for more CVD deaths than any other risk factor. Age-standardized CVD death rates attributable to established risk factors plus high body mass index are lowest in high-income countries, followed by Latin America and the Caribbean; they are highest in the region of central and eastern Europe and central Asia. However, estimates of the health effects of CVD risk factors are highly uncertain because there are insufficient population-based data on exposure to most CVD risk factors and because the magnitudes of their effects on CVDs in observational studies are likely to be biased. We identify directions for research and surveillance to better estimate the effects of CVD risk factors and policy options for reducing CVD burden by modifying preventable risk factors. **(*Circulation*. 2016;133:2314-2333. DOI: 10.1161/CIRCULATIONAHA.115.008718.)**

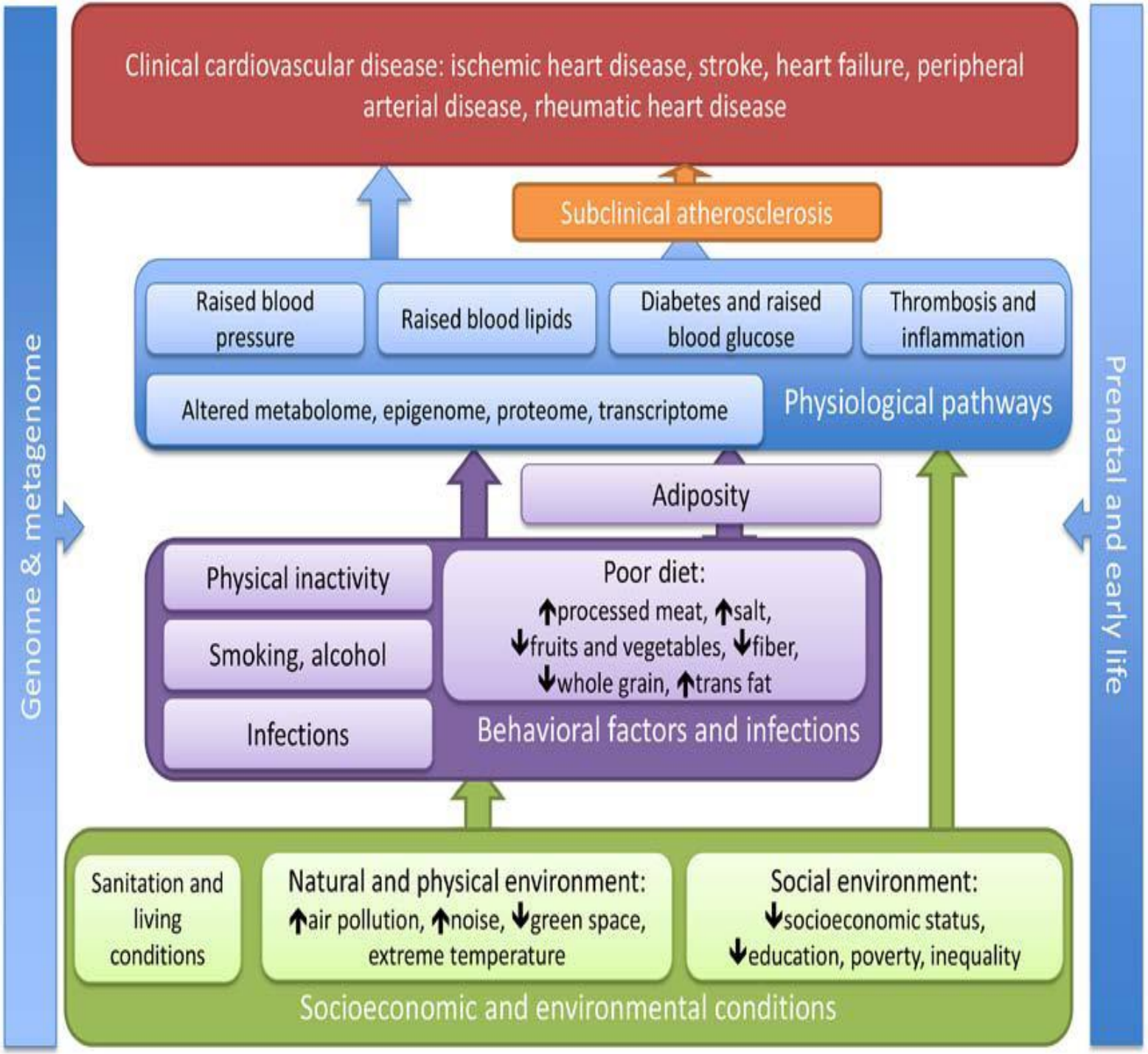
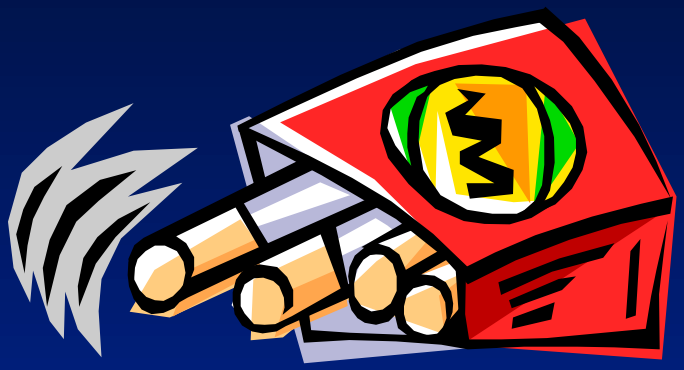
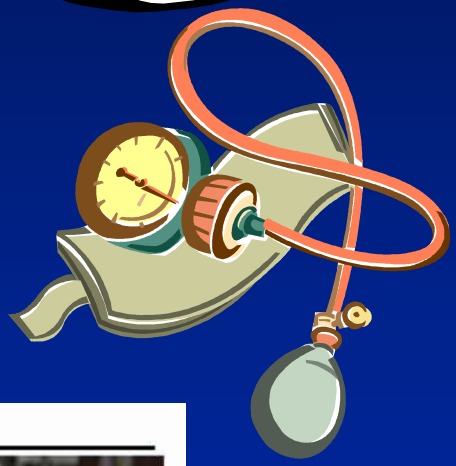


Figure 1. Schematic diagram of the proposed determinants of and risk factors For CV diseases.

Lifestyle Interventions – still important





Circulation

JOURNAL OF THE AMERICAN HEART ASSOCIATION

AHA/ACC Prevention Guideline

OPEN

2013 AHA/ACC Guideline on Lifestyle Management to Reduce Cardiovascular Risk

A Report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines

Endorsed by the American Association of Cardiovascular and Pulmonary Rehabilitation, American Pharmacists Association, American Society for Nutrition, American Society for Preventive Cardiology, American Society of Hypertension, Association of Black Cardiologists, National Lipid Association, Preventive Cardiovascular Nurses Association, and WomenHeart: The National Coalition for Women With Heart Disease

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ACC/AHA Prevention Guideline

OPEN

2013 ACC/AHA Guideline on the Assessment of Cardiovascular Risk

A Report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines

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Prevention Guidelines

American Heart Association. | AMERICAN COLLEGE of CARDIOLOGY

2013 Prevention Guidelines Tools

CV RISK CALCULATOR

The American Heart Association and the American College of Cardiology are excited to provide a series of new cardiovascular prevention guidelines for the assessment of cardiovascular risk, lifestyle modifications that reduce risk, management of elevated blood cholesterol, and management of increased body weight in adults. To support the implementation of these guidelines, the new Pooled Cohort Equations CV Risk Calculator and additional Prevention Guideline Tools are available below. Others may be developed and available in the near future.

Available on the App Store | ANDROID APP ON Google play

Download CV Risk Cacl culator | Launch Web Version

This downloadable spreadsheet is a companion tool to the 2013 ACC/AHA Guideline on

Figure 1. Implementation of Risk Assessment Work Group Recommendations

LIFE'S SIMPLE 7

American Heart Association | American Stroke Association

life is why™

My Life Check®

Live Better With Life's Simple 7®

What can we do to get active?

Stop Smoking | Eat Better | **Get Active** | Lose Weight | Manage Blood Pressure | Control Cholesterol | Reduce Blood Sugar

Start with these 3 steps.

About Life's Simple 7

Manage Blood Pressure

High blood pressure is a major risk factor for heart disease and stroke. When your blood pressure stays within healthy ranges, you reduce the strain on your heart, arteries, and kidneys which keeps you healthier longer.

Learn how to manage your blood pressure.

Control Cholesterol

High cholesterol contributes to plaque, which can clog arteries and lead to heart disease and stroke. When you control your cholesterol, you are giving your arteries their best chance to remain clear of blockages.

Learn how to control your cholesterol.

Reduce Blood Sugar

Most of the food we eat is turned into glucose (or blood sugar) that our bodies use for energy. Over time, high levels of blood sugar can damage your heart, kidneys, eyes and nerves. Learn how to reduce your blood sugar.

American Heart Association®
life is why™

Get Active
Living an active life is one of the most rewarding gifts you can give yourself and those you love. Simply put, daily physical activity increases your length and quality of life.
Learn how to get active.

Eat Better A healthy diet is one of your best weapons for fighting cardiovascular disease. When you eat a heart-healthy diet, you improve your chances for feeling good and staying healthy – for life!
Learn how to eat better.

Lose Weight
When you shed extra fat and unnecessary pounds, you reduce the burden on your heart, lungs, blood vessels and skeleton. You give yourself the gift of active living, you lower your blood pressure and you help yourself feel better, too.
Learn how to lose weight.

Stop Smoking
Cigarette smokers have a higher risk of developing cardiovascular disease. If you smoke, quitting is the best thing you can do for your health.
Learn how to stop smoking.

European Heart Journal (2016) 37, 2315–2381
doi:10.1093/eurheartj/ehw106

2016 European Guidelines on cardiovascular disease prevention in clinical practice

The Sixth Joint Task Force of the European Society of Cardiology and Other Societies on Cardiovascular Disease Prevention in Clinical Practice (constituted by representatives of 10 societies and by invited experts)

Developed with the special contribution of the European Association for Cardiovascular Prevention & Rehabilitation (EACPR)

Authors/Task Force Members: Massimo F. Piepoli* (Chairperson) (Italy), Arno W. Hoes* (Co-Chairperson) (The Netherlands), Stefan Agewall (Norway)[1], Christian Albus (Germany)[9], Carlos Brotons (Spain)[10], Alberico L. Catapano (Italy)[3], Marie-Therese Cooney (Ireland)[1], Ugo Corrà (Italy)[1], Bernard Cosyns (Belgium)[1], Christi Deaton (UK)[1], Ian Graham (Ireland)[1], Michael Stephen Hall (UK)[7], F. D. Richard Hobbs (UK)[10], Maja-Lisa Løchen (Norway)[1], Herbert Löllgen (Germany)[8], Pedro Marques-Vidal (Switzerland)[1], Jbep Perk (Sweden)[1], Eva Prescott (Denmark)[1], Jbsep Redon (Spain)[5], Dimitrios J. Richter (Greece)[1], Naveed Sattar (UK)[2], Yvo Smulders (The Netherlands)[1], Monica Tiberi (Italy)[1], H. Bart van der Worp (The Netherlands)[6], Ineke van Dis (The Netherlands)[4], W. M. Monique Verschuren (The Netherlands)[1]

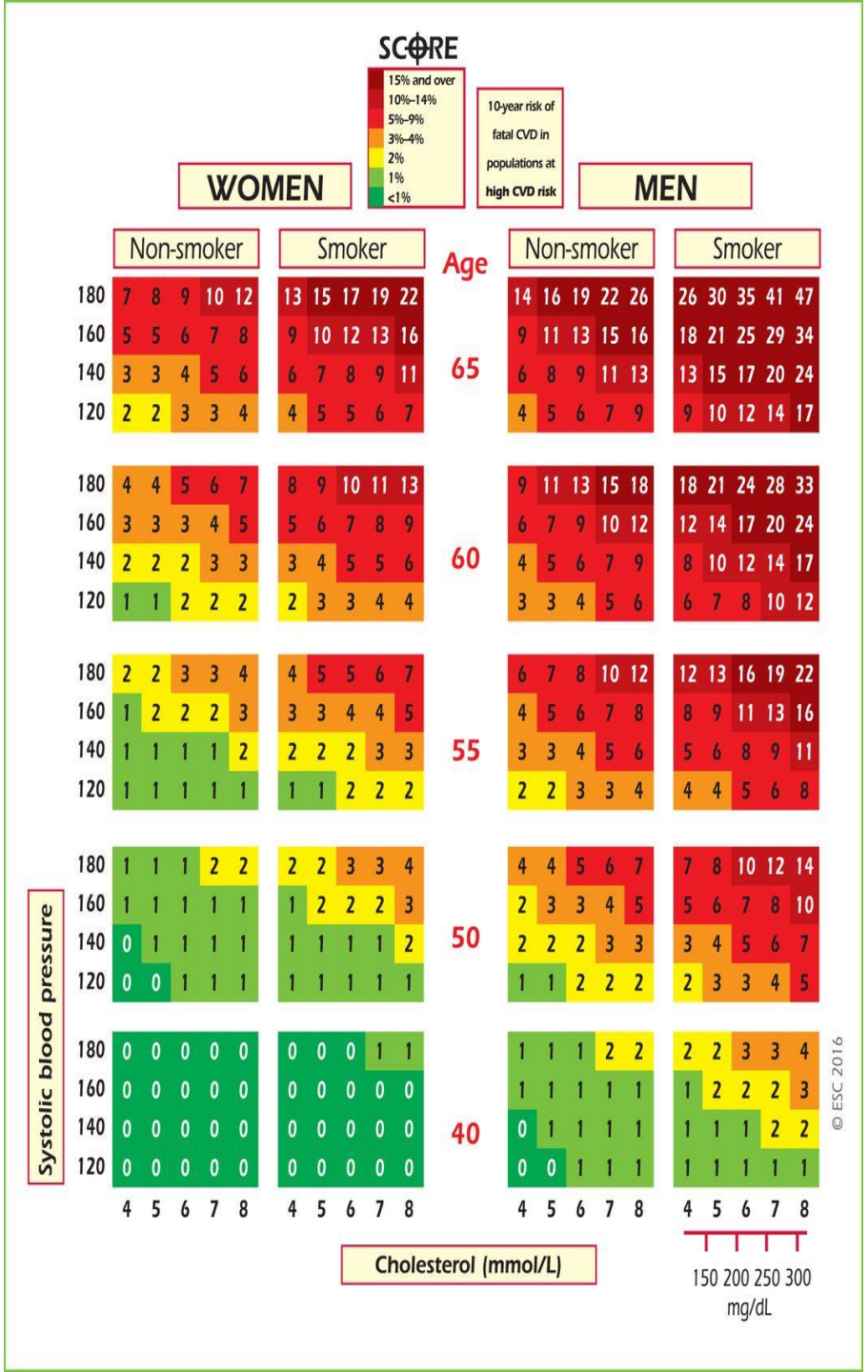
Additional Contributor: Simone Binno (Italy)

They defined CVD prevention as a coordinated set of actions, at the population level or targeted at an individual, that are aimed at eliminating or minimizing the impact of CVDs and their related disabilities. CVD remains a leading cause of morbidity and mortality, despite improvements in outcomes.

CVD Risk Prevention

From ESC 2016 CV prevention guidelines

SCORE chart: 10-year risk of fatal cardiovascular disease in populations of countries at high cardiovascular risk based on the following risk factors: age, sex, smoking, systolic blood pressure, total cholesterol.
CVD = cardiovascular disease;
SCORE = Systematic Coronary Risk Estimation.



Piepoli et al. 2016 European Guidelines on cardiovascular disease prevention in clinical practice. Europ Heart J.

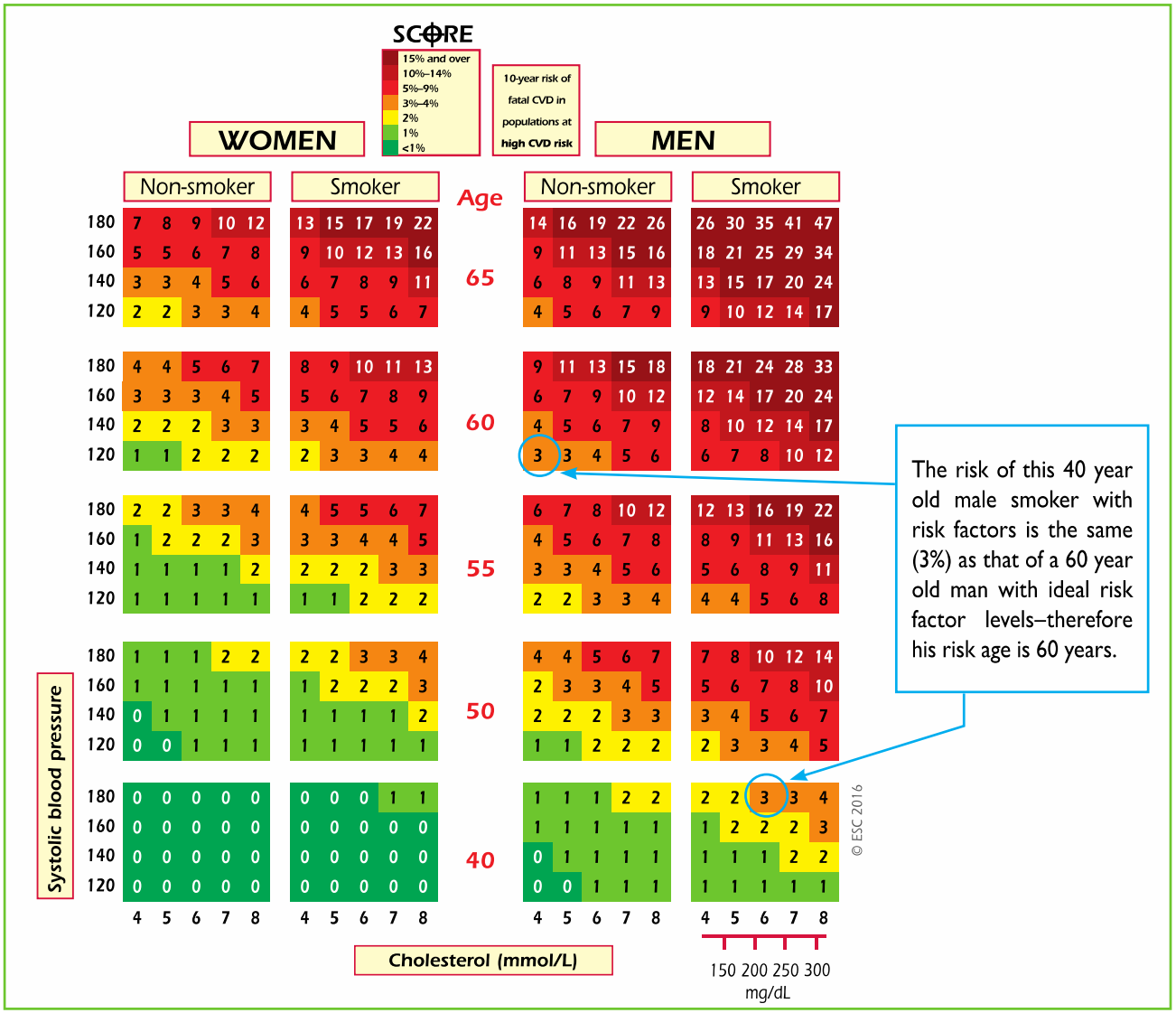
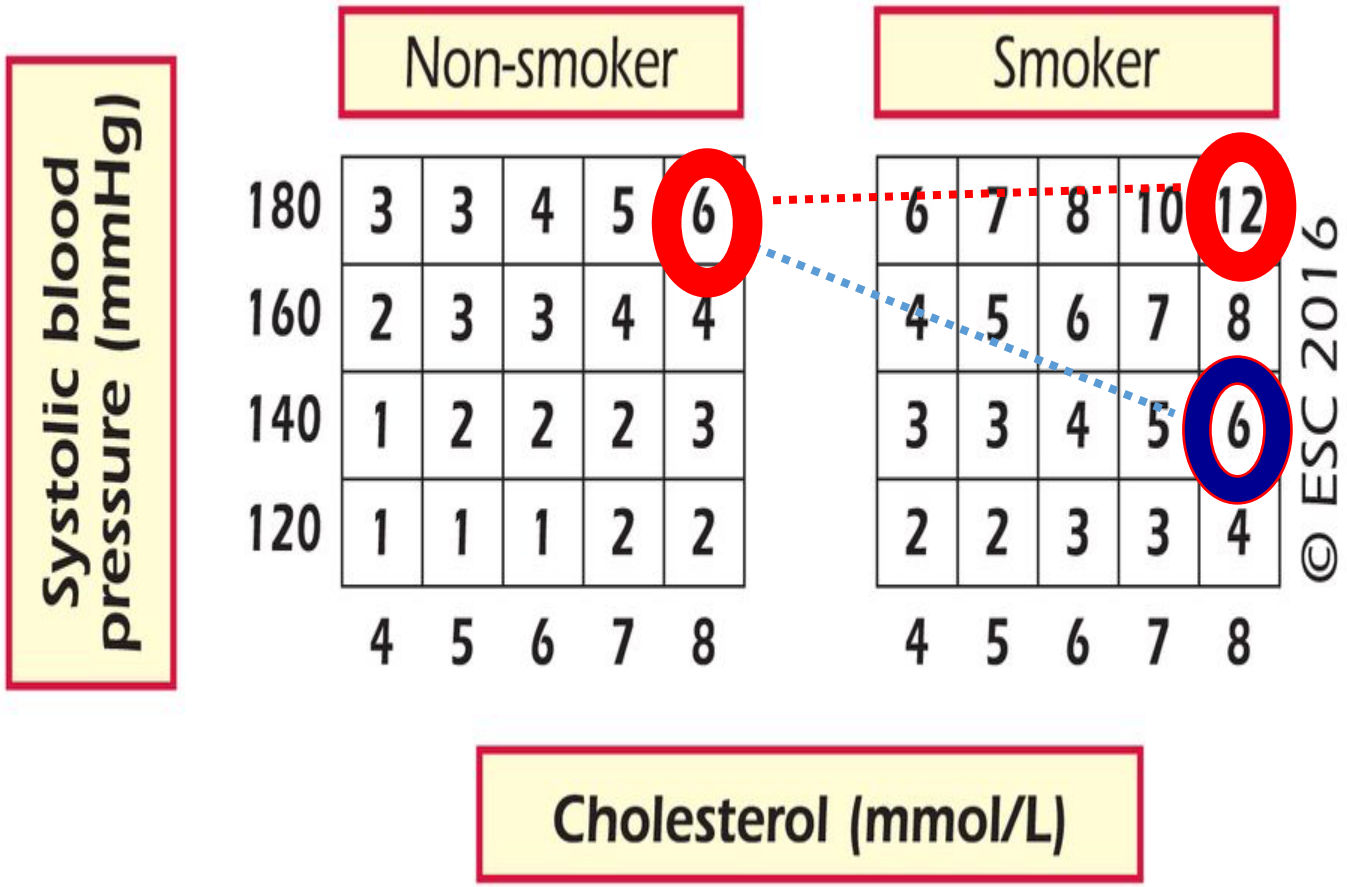
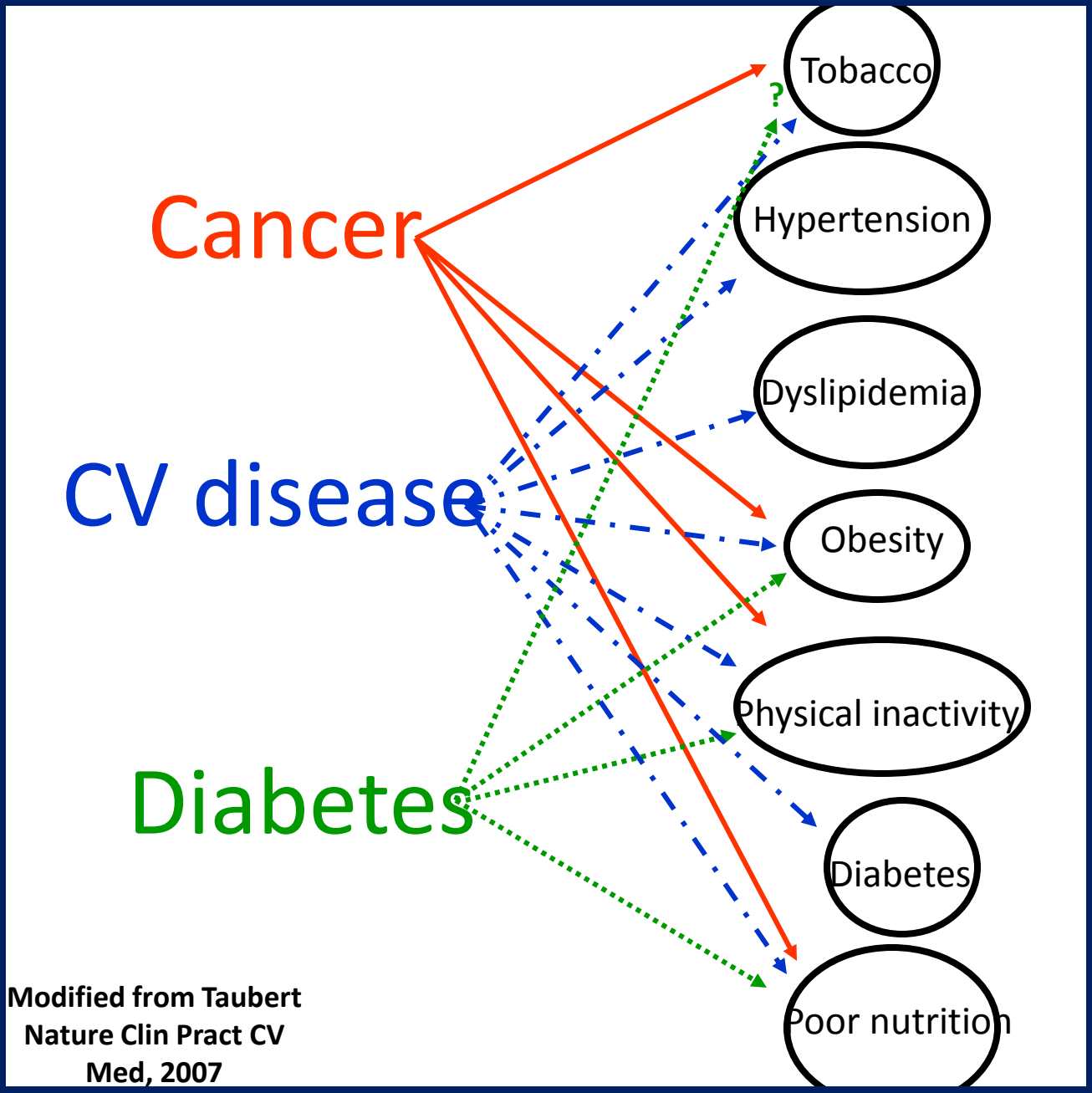


Figure 4 SCORE chart (for use in high-risk European countries) illustrating how the approximate risk age can be read off the chart. SCORE = Systematic Coronary Risk Estimation.

Piepoli et al. 2016 European Guidelines on cardiovascular disease prevention in clinical practice. Europ Heart J.


Non-smoker
Smoker
Systolic blood pressure (mmHg)
180 3 3 4 5 6 6 7 8 10 12
160 2 3 3 4 4 4 5 6 7 8
140 1 2 2 2 3 3 3 4 5 6
120 1 1 1 2 2 2 2 3 3 4
4 5 6 7 8 4 5 6 7 8
Cholesterol (mmol/L)
© ESC 2016


Cancer
CV disease
Diabetes
?
Tobacco
Hypertension
Dyslipidemia
Obesity
Physical inactivity
Diabetes
Poor nutrition
Modified from Taubert
Nature Clin Pract CV
Med, 2007

So how are individual countries doing?

Brazil?

China?

Venezuela?

Mexico?

USA?

Argentina?

Mozambique?

Switzerland?

Noncommunicable Diseases Country Profiles 2014

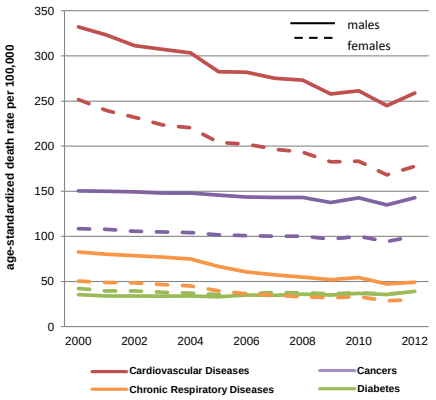
World Health Organization

Brazil

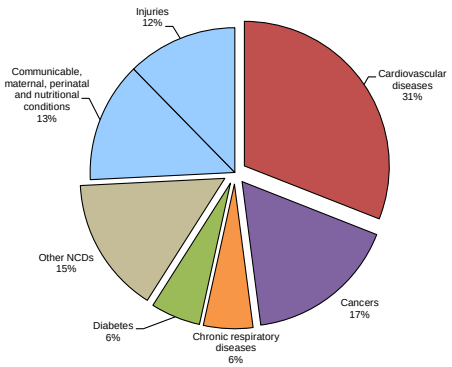
Total population: 199 000 000
Income Group: Upper middle

Percentage of population living in urban areas: 84.6%
Population proportion between ages 30 and 70 years: 45.0%

Age-standardized death rates



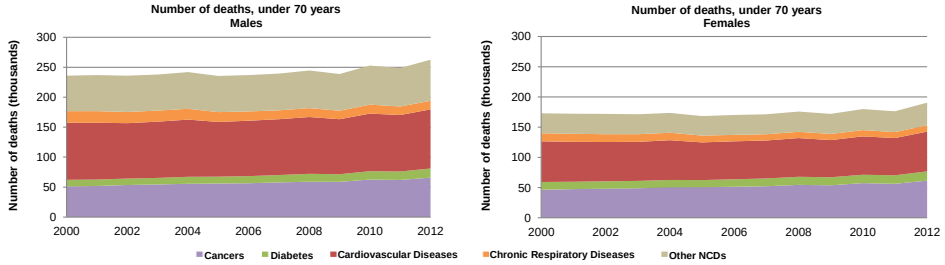
Proportional mortality (% of total deaths, all ages, both sexes)



Total deaths: 1,318,000
NCDs are estimated to account for 74% of total deaths.

Premature mortality due to NCDs

The probability of dying between ages 30 and 70 years from the 4 main NCDs is 19% .



Adult risk factors

	males	females	total
Current tobacco smoking (2011)	22%	13%	17%
Total alcohol per capita consumption, in litres of pure alcohol (2010)	13.6	4.2	8.7
Raised blood pressure (2008)	36.8%	25.3%	30.8%
Obesity (2008)	16.0%	21.4%	18.8%

National systems response to NCDs

Has an operational NCD unit/branch or department within the Ministry of Health, or equivalent	**Yes**
Has an operational multisectoral national policy, strategy or action plan that integrates several NCDs and shared risk factors	**No**
Has an operational policy, strategy or action plan to reduce the harmful use of alcohol	**No**
Has an operational policy, strategy or action plan to reduce physical inactivity and/or promote physical activity	**Yes**
Has an operational policy, strategy or action plan to reduce the burden of tobacco use	**Yes**
Has an operational policy, strategy or action plan to reduce unhealthy diet and/or promote healthy diets	**Yes**
Has evidence-based national guidelines/protocols/standards for the management of major NCDs through a primary care approach	**Yes**
Has an NCD surveillance and monitoring system in place to enable reporting against the nine global NCD targets	**No**
Has a national, population-based cancer registry	**No**

Brazil

Total population: 199 000 000
Income Group: Upper middle

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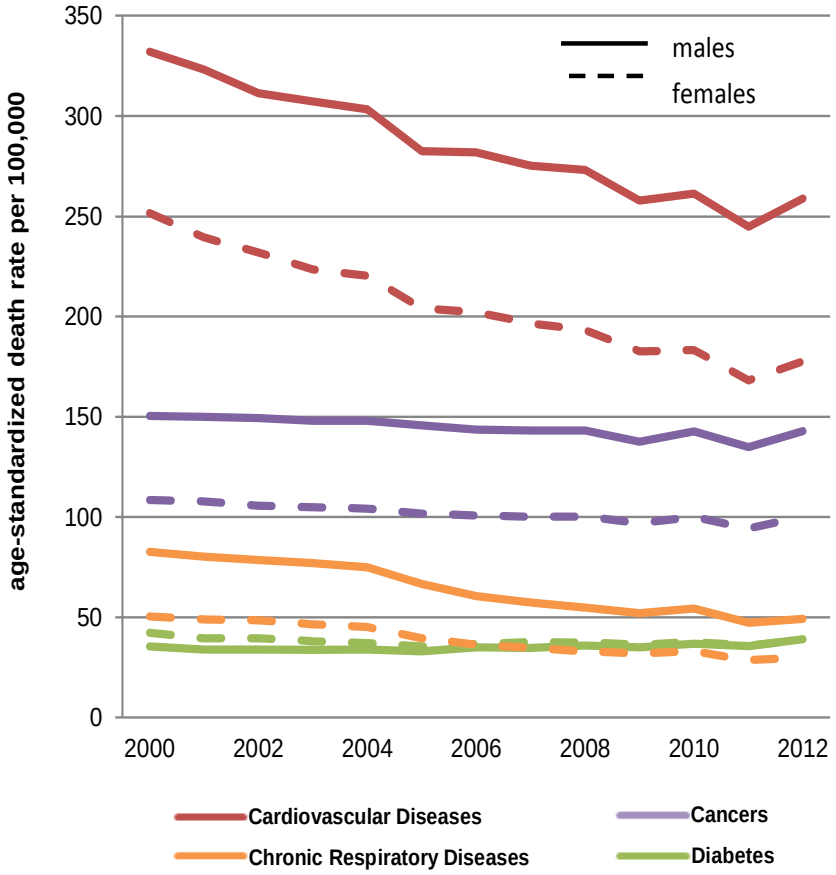
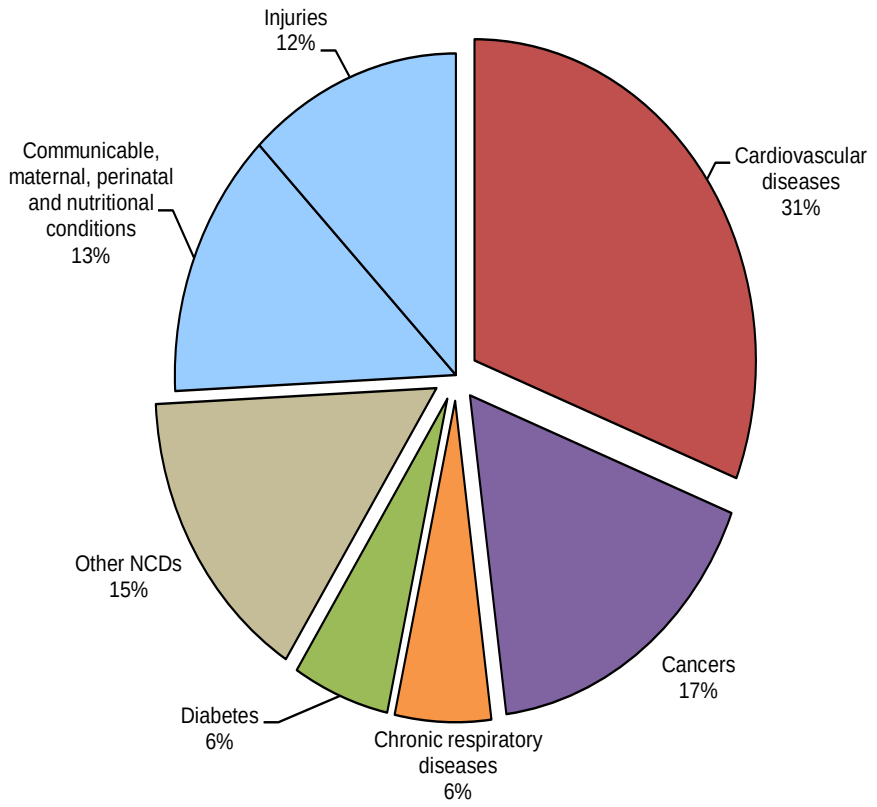
Age-standardized death rates



Proportional mortality (% of total deaths, all ages, both sexes)



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Premature mortality due to NCDs

From: WHO country profiles, 2014

Premature mortality due to NCDs

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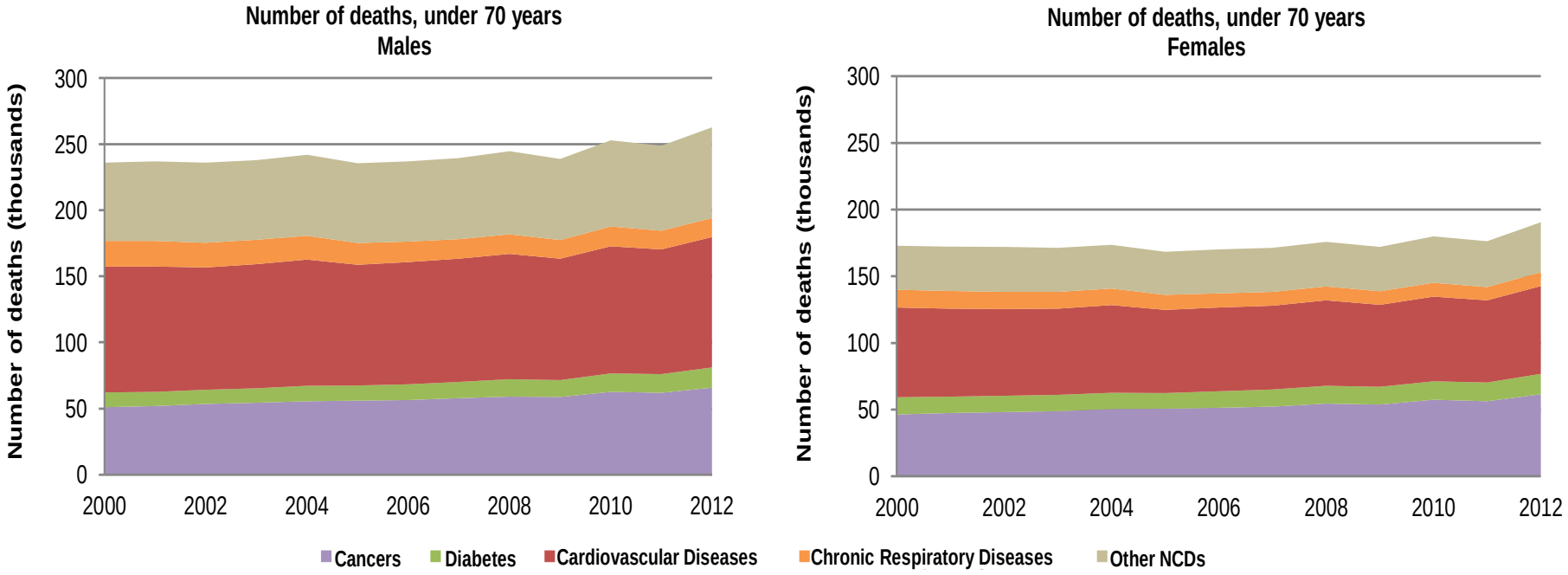

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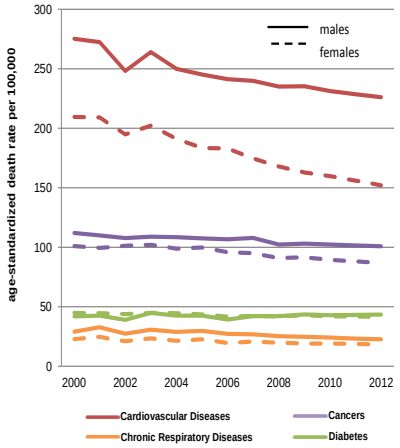
Obesity (2008)	16.0%	21.4%	18.8%

Venezuela (Bolivarian Republic of)

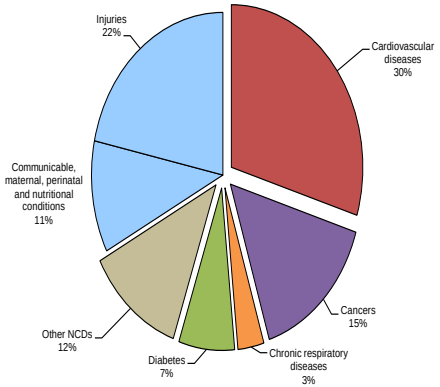
Total population: 29 955 000
Income Group: Upper middle

Percentage of population living in urban areas: 93.5%
Population proportion between ages 30 and 70 years: 40.8%

Age-standardized death rates



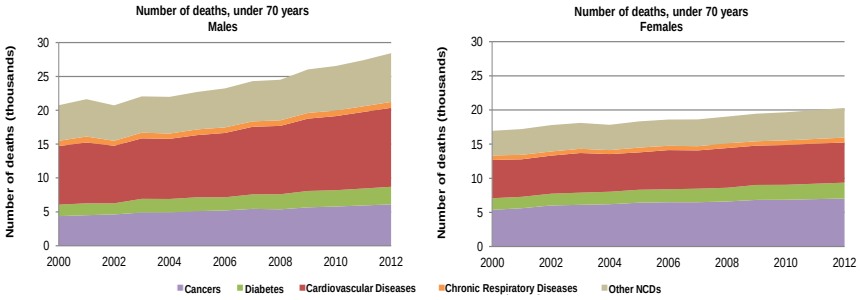
Proportional mortality (% of total deaths, all ages, both sexes)



Total deaths: 143,000
NCDs are estimated to account for 67% of total deaths.

Premature mortality due to NCDs

The probability of dying between ages 30 and 70 years from the 4 main NCDs is 16%.

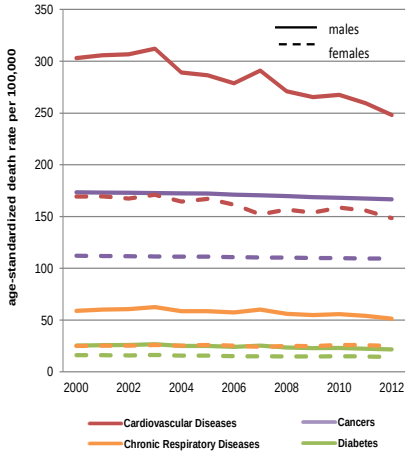


Argentina

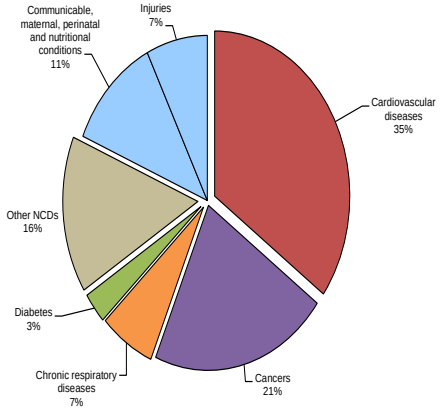
Total population: 41 087 000
Income Group: Upper middle

Percentage of population living in urban areas: 92.5%
Population proportion between ages 30 and 70 years: 43.9%

Age-standardized death rates*



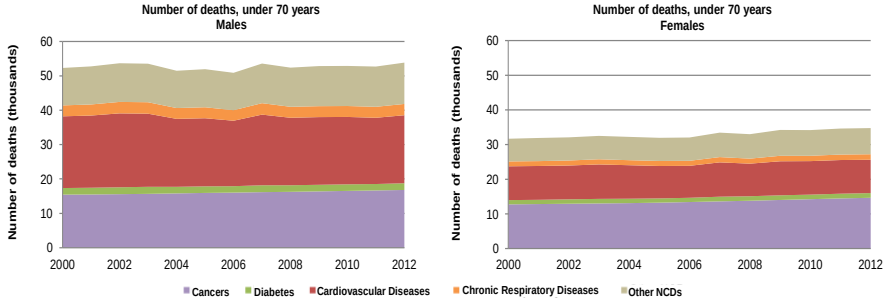
Proportional mortality (% of total deaths, all ages, both sexes)*



Total deaths: 314,000
NCDs are estimated to account for 81% of total deaths.

Premature mortality due to NCDs*

The probability of dying between ages 30 and 70 years from the 4 main NCDs is 17%.

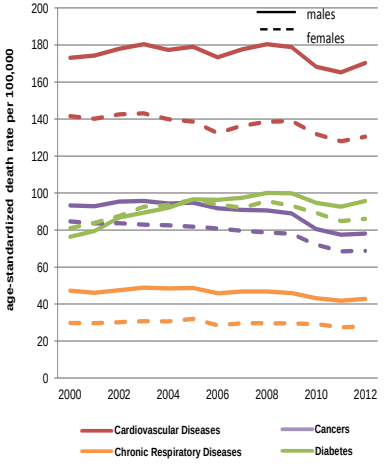


Mexico

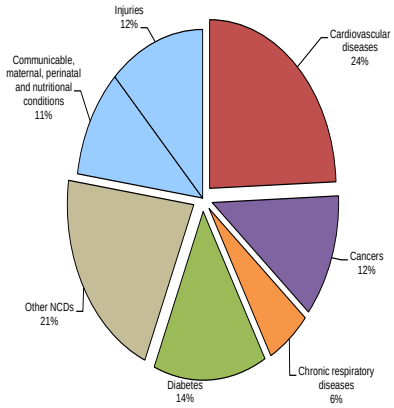
Total population: 121 000 000
Income Group: Upper middle

Percentage of population living in urban areas: 78.1%
Population proportion between ages 30 and 70 years: 40.5%

Age-standardized death rates



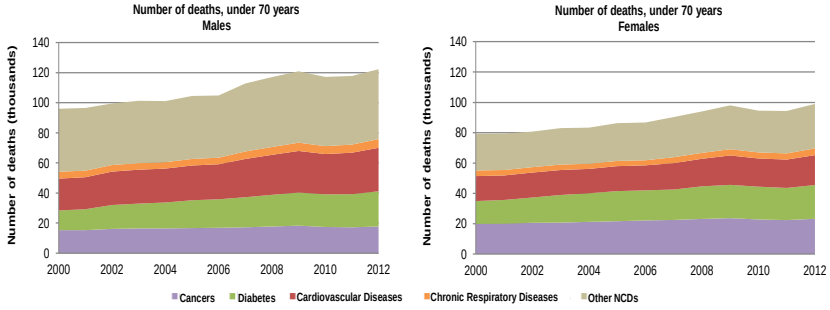
Proportional mortality (% of total deaths, all ages, both sexes)



Total deaths: 605,000
NCDs are estimated to account for 77% of total deaths.

Premature mortality due to NCDs

The probability of dying between ages 30 and 70 years from the 4 main NCDs is 16%.

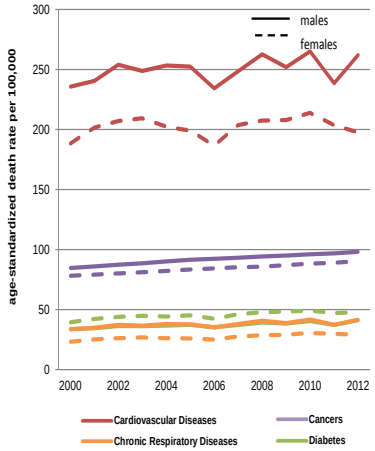


Nicaragua

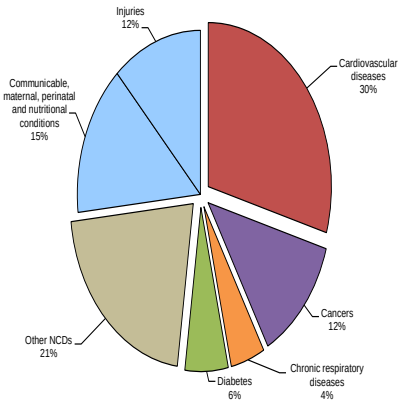
Total population: 5 992 000
Income Group: Lower middle

Percentage of population living in urban areas: 57.5%
Population proportion between ages 30 and 70 years: 33.3%

Age-standardized death rates*



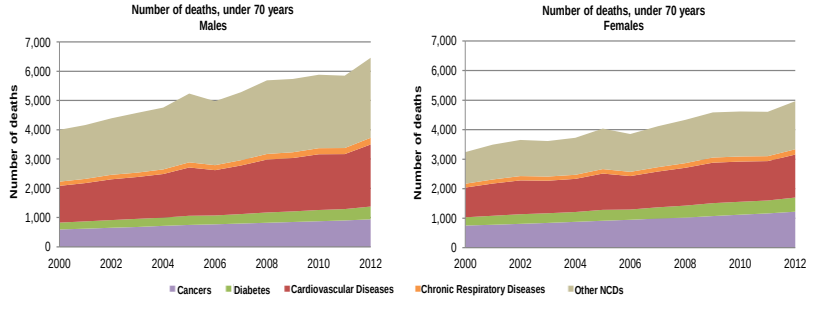
Proportional mortality (% of total deaths, all ages, both sexes)*



Total deaths: 29,000
NCDs are estimated to account for 73% of total deaths.

Premature mortality due to NCDs*

The probability of dying between ages 30 and 70 years from the 4 main NCDs is 19%.

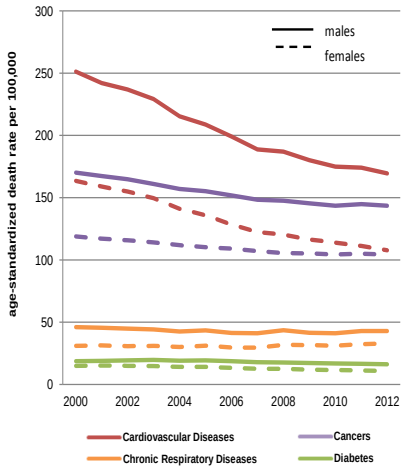


United States of America

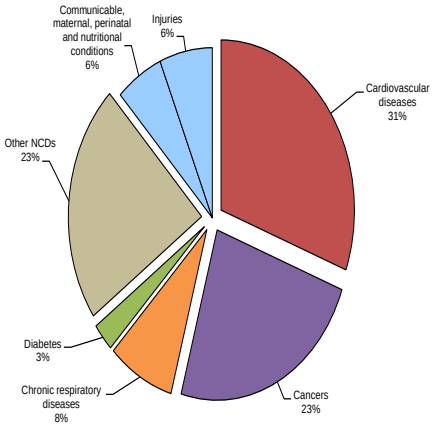
Total population: 318 000 000
Income Group: High

Percentage of population living in urban areas: 82.4%
Population proportion between ages 30 and 70 years: 50.3%

Age-standardized death rates



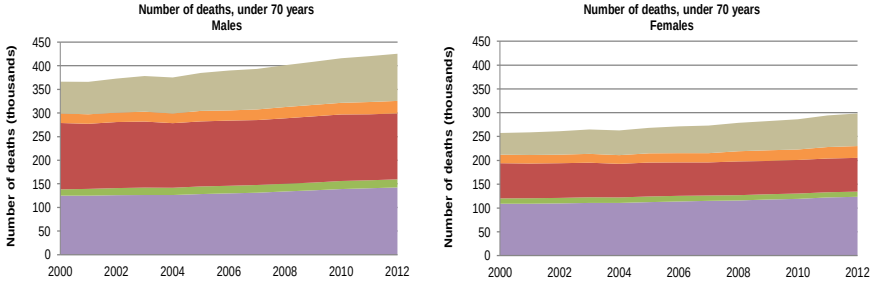
Proportional mortality (% of total deaths, all ages, both sexes)



Total deaths: 2,656,000
NCDs are estimated to account for 88% of total deaths.

Premature mortality due to NCDs

The probability of dying between ages 30 and 70 years from the 4 main NCDs is 14% .

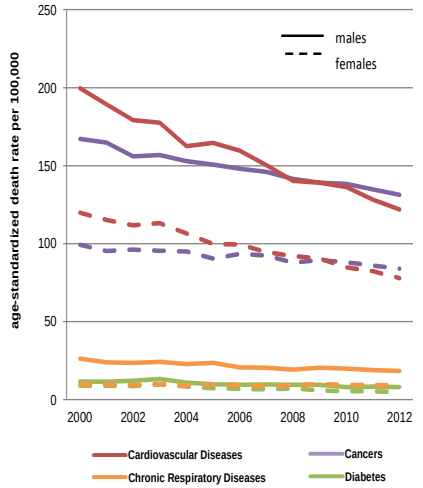


Switzerland

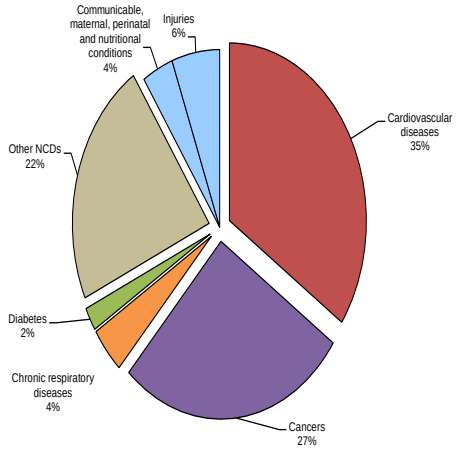
Total population: 7 997 000
Income Group: High

Percentage of population living in urban areas: 73.7%
Population proportion between ages 30 and 70 years: 54.5%

Age-standardized death rates



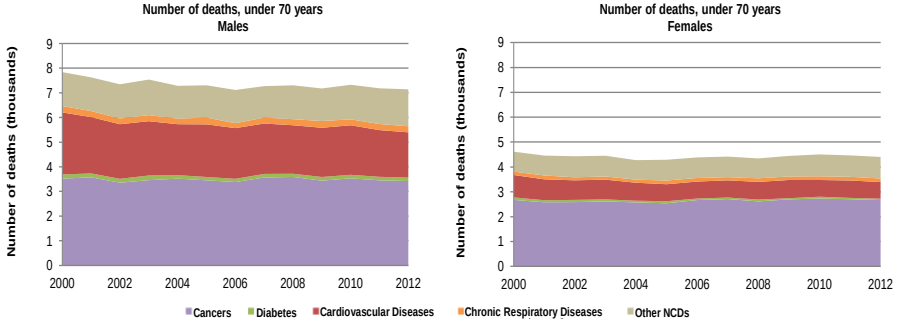
Proportional mortality (% of total deaths, all ages, both sexes)



Total deaths: 62,000
NCDs are estimated to account for 91% of total deaths.

Premature mortality due to NCDs

The probability of dying between ages 30 and 70 years from the 4 main NCDs is 9% .

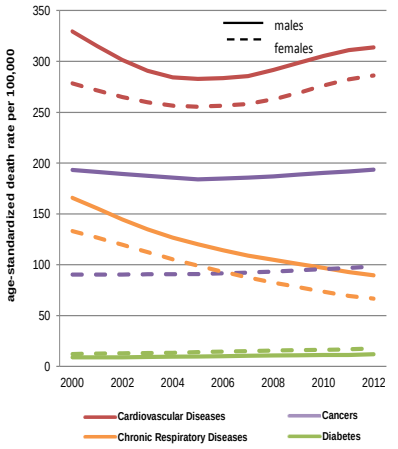


China

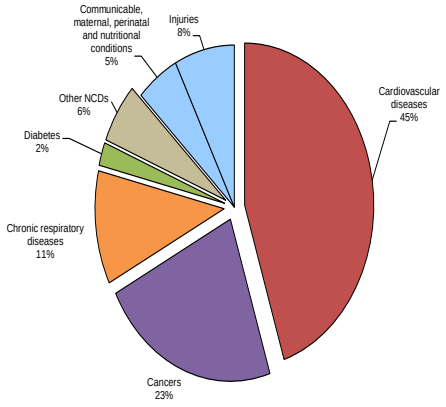
Total population: 1 390 000 000
Income Group: Upper middle

Percentage of population living in urban areas: 50.6%
Population proportion between ages 30 and 70 years: 51.5%

Age-standardized death rates*



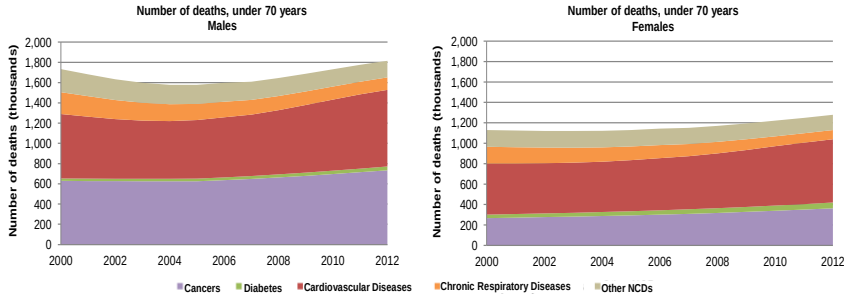
Proportional mortality (% of total deaths, all ages, both sexes)*



Total deaths: 9,846,000
NCDs are estimated to account for 87% of total deaths.

Premature mortality due to NCDs*

The probability of dying between ages 30 and 70 years from the 4 main NCDs is 19%.



Adult risk factors

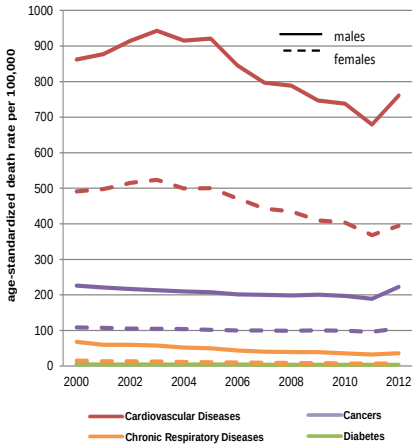
	males	females	total
Current tobacco smoking (2011)	47%	2%	25%
Total alcohol per capita consumption, in litres of pure alcohol (2010)	10.9	2.2	6.7
Raised blood pressure (2008)	29.0%	25.5%	27.3%
Obesity (2008)	4.7%	6.7%	5.7%

Russian Federation

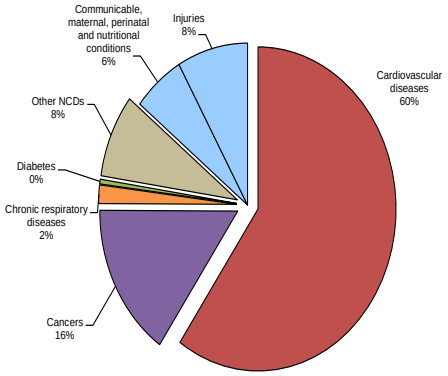
Total population: 143 000 000
Income Group: High

Percentage of population living in urban areas: 73.8%
Population proportion between ages 30 and 70 years: 52.9%

Age-standardized death rates



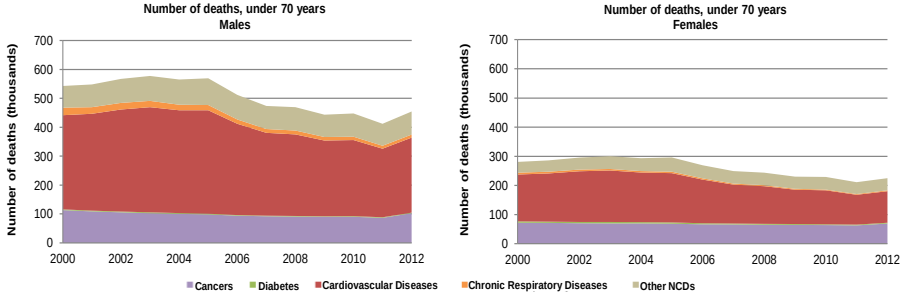
Proportional mortality (% of total deaths, all ages, both sexes)



Total deaths: 2,102,000
NCDs are estimated to account for 86% of total deaths.

Premature mortality due to NCDs

The probability of dying between ages 30 and 70 years from the 4 main NCDs is 30%.



Adult risk factors

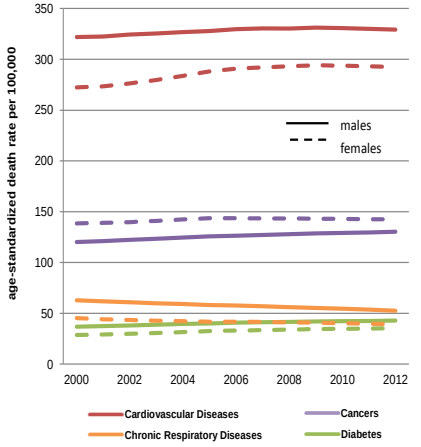
	males	females	total
Current tobacco smoking (2011)	59%	25%	40%
Total alcohol per capita consumption, in litres of pure alcohol (2010)	23.9	7.8	15.1
Raised blood pressure (2008)	37.5%	38.1%	37.8%
Obesity (2008)	18.6%	32.9%	26.5%

Burundi

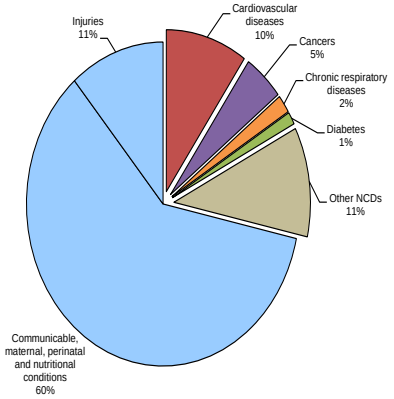
Total population: 9 850 000
Income Group: Low

Percentage of population living in urban areas: 10.9%
Population proportion between ages 30 and 70 years: 25.1%

Age-standardized death rates*



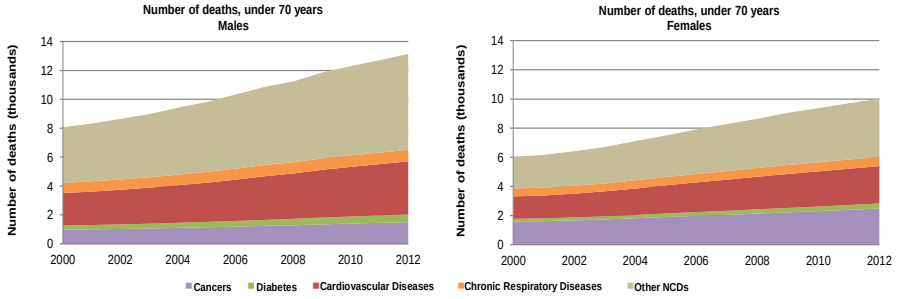
Proportional mortality (% of total deaths, all ages, both sexes)*



Total deaths: 113,000
NCDs are estimated to account for 28% of total deaths.

Premature mortality due to NCDs*

The probability of dying between ages 30 and 70 years from the 4 main NCDs is 24%.

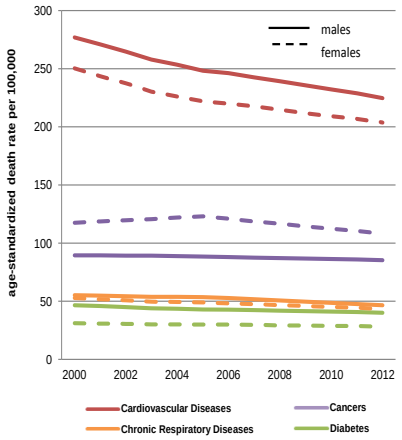


Mozambique

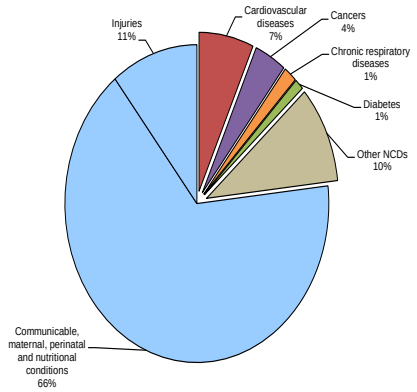
Total population: 25 203 000
Income Group: Low

Percentage of population living in urban areas: 31.2%
Population proportion between ages 30 and 70 years: 25.8%

Age-standardized death rates*



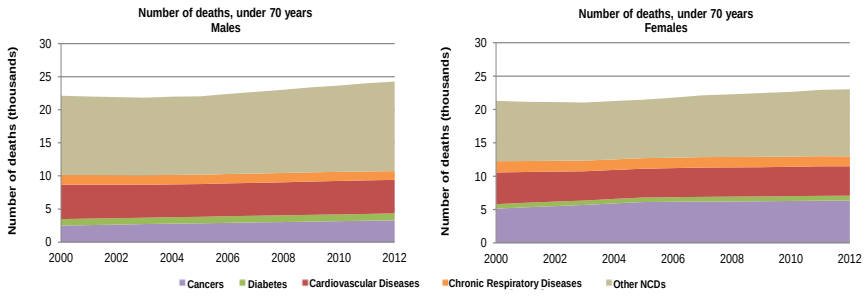
Proportional mortality (% of total deaths, all ages, both sexes)*



Total deaths: 313,000
NCDs are estimated to account for 23% of total deaths.

Premature mortality due to NCDs*

The probability of dying between ages 30 and 70 years from the 4 main NCDs is 17%.



Circulation

JOURNAL OF THE AMERICAN HEART ASSOCIATION

AHA/WHF Scientific Statement

The Heart of 25 by 25: Achieving the Goal of Reducing Global and Regional Premature Deaths From Cardiovascular Diseases and Stroke

A Modeling Study From the American Heart Association and World Heart Federation

Ralph L. Sacco, MD, MS, FAHA; Gregory A. Roth, MD, MPH; K. Srinath Reddy, MD, DM; Donna K. Arnett, PhD, MSPH, FAHA; Ruth Bonita, PhD; Thomas A. Gaziano, MD; Paul A. Heidenreich, MD, MS, FAHA; Mark D. Huffman, MD, MPH, FAHA; Bongani M. Mayosi, MBChB, DPhil; Shanthi Mendis, MD; Christopher J.L. Murray, MD, DPhil; Pablo Perel, MD, MSc, PhD; Daniel J. Piñeiro, MD, FAHA; Sidney C. Smith, Jr, MD, FAHA; Kathryn A. Taubert, PhD, FAHA; David A. Wood, MSc; Dong Zhao, MD, PhD; William A. Zoghbi, MD, FAHA

Abstract—In 2011, the United Nations set key targets to reach by 2025 to reduce the risk of premature noncommunicable disease death by 25% by 2025. With cardiovascular disease being the largest contributor to global mortality, accounting for nearly half of the 36 million annual noncommunicable disease deaths, achieving the 2025 goal requires that cardiovascular disease and its risk factors be aggressively addressed. The Global Cardiovascular Disease Taskforce, comprising the World Heart Federation, American Heart Association, American College of Cardiology Foundation, European Heart Network, and European Society of Cardiology, with expanded representation from Asia, Africa, and Latin America, along with global cardiovascular disease experts, disseminates information and approaches to reach the United Nations 2025 targets. The writing committee, which reflects Global Cardiovascular Disease Taskforce membership, engaged the Institute for Health Metrics and Evaluation, University of Washington, to develop region-specific estimates of premature cardiovascular mortality in 2025 based on various scenarios. Results [illegible] that 3.9 million premature CVD deaths among men and 2.8 million [illegible] women are projected worldwide by 2025, which can be reduced to 3.5 million and 2.2 million, respectively, if risk factor targets for blood pressure, tobacco use, diabetes mellitus, and obesity are achieved. However, global risk factor targets have various effects, depending on region. For [illegible] regions, United Nations targets for reducing systolic blood pressure and [illegible] use have more substantial effects on future scenarios compared with maintaining current levels of body mass index and fasting plasma glucose. However, preventing increases in body mass index has the largest effect in some high-income countries. An approach achieving reductions in multiple risk factors has the largest impact for almost all regions. Achieving these goals can be accomplished only if countries set priorities, implement cost-effective population wide strategies, and collaborate in public-private partnerships across multiple sectors. (***Circulation***. 2016;133:e674–e690. DOI: 10.1161/CIR.0000000000000395.)

Key Words: AHA Scientific Statements ■ cardiovascular diseases ■ forecasting ■ global health ■ premature mortality ■ prevention and control

Results showed that management of risk factors can indeed reduce premature mortality.

(see next slide)

Circulation
JOURNAL OF THE AMERICAN HEART ASSOCIATION

(From Sacco, et al)

based on various scenarios. Results show that >5 million premature CVD deaths among men and 2.8 million among women are projected worldwide by 2025, which can be reduced to 3.5 million and 2.2 million, respectively, if risk factor targets for blood pressure, tobacco use, diabetes mellitus, and obesity are achieved. However, global risk factor targets have various effects, depending on region. For most regions, United Nations targets for reducing systolic blood pressure and tobacco use have more substantial effects on future scenarios compared with maintaining current levels of body mass index and fasting plasma glucose. However, preventing increases in body mass index has the largest effect in some high-income countries. An

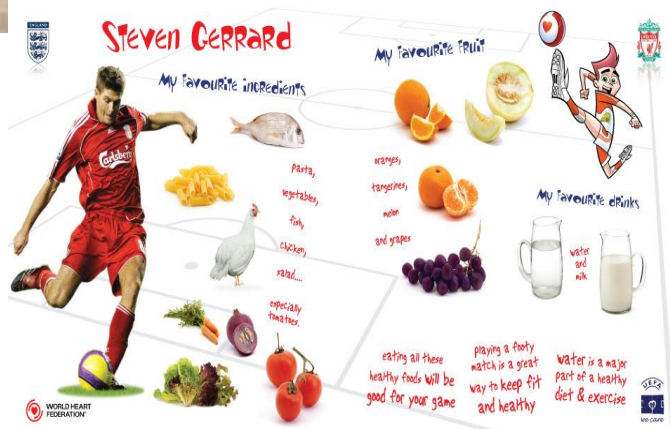
- Population attributable risk

This…

Not this…

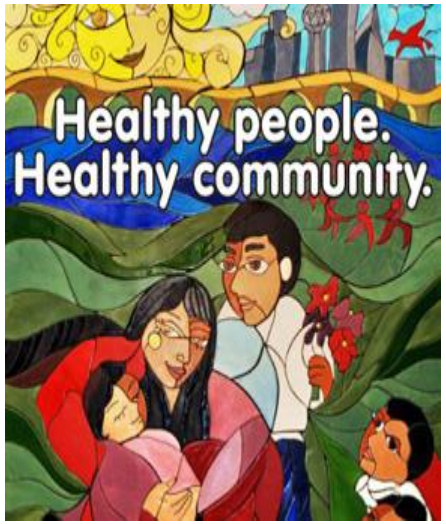
(CC) CAROL ESTHER/FLICKR

This…


Steven Gerrard
My favourite ingredients
My favourite fruit
My favourite drinks
pasta,
vegetables,
fish,
chicken,
salad...
especially tomatoes.
oranges,
tangerines,
melon
and grapes
water and milk
eating all these healthy foods will be good for your game
playing a footy match is a great way to keep fit and healthy
water is a major part of a healthy diet & exercise
WORLD HEART FEDERATION

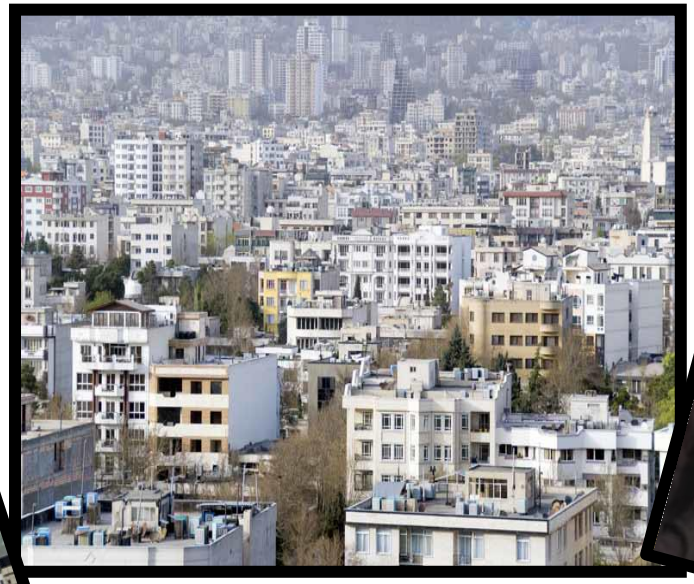
Not this…

This…


Healthy people.
Healthy community.


HEALTHY COMMUNITY DESIGN
Policies like Boston's Resident Jobs Policy and CORI Reform Ordinance - which prohibits employment discrimination based on criminal records - ensure that access to employment is equitably distributed across the city.
Unemployment and unstable housing contribute to homelessness, chronic stress and poor health outcomes, including mental health challenges.
18,600 public and private multi-family housing units have gone smoke free since 2010.
Secondhand smoke can cause numerous health problems such as severe asthma attacks and SIDS in kids, and heart disease and lung cancer for adults.
Through a zoning ammendment, Boston was the first city in the US to require that all large building projects meet energy-efficiency standards.
Energy-efficient building practices improve air quality and decrease risk for asthma, respiratory problems and premature death.
Between 2008 and 2013, over 50 miles of dedicated bike lanes have been added to city streets.
Increasing infrastructure for active transit is correlated with increased physical activity, which reduces the risk of obesity, diabetes and hypertension.
Boston's ParkScore is 3rd in the nation for big cities, with 16% of the city's land dedicated to open space.
Children who live near parks have higher rates of physical activity.
The number of farmers markets in Boston has increased from 13 in 2008 to 27 today.
A Boston study found that SNAP recipients who shopped at farmers markets consumed more fruits and vegetables than those who didn't.

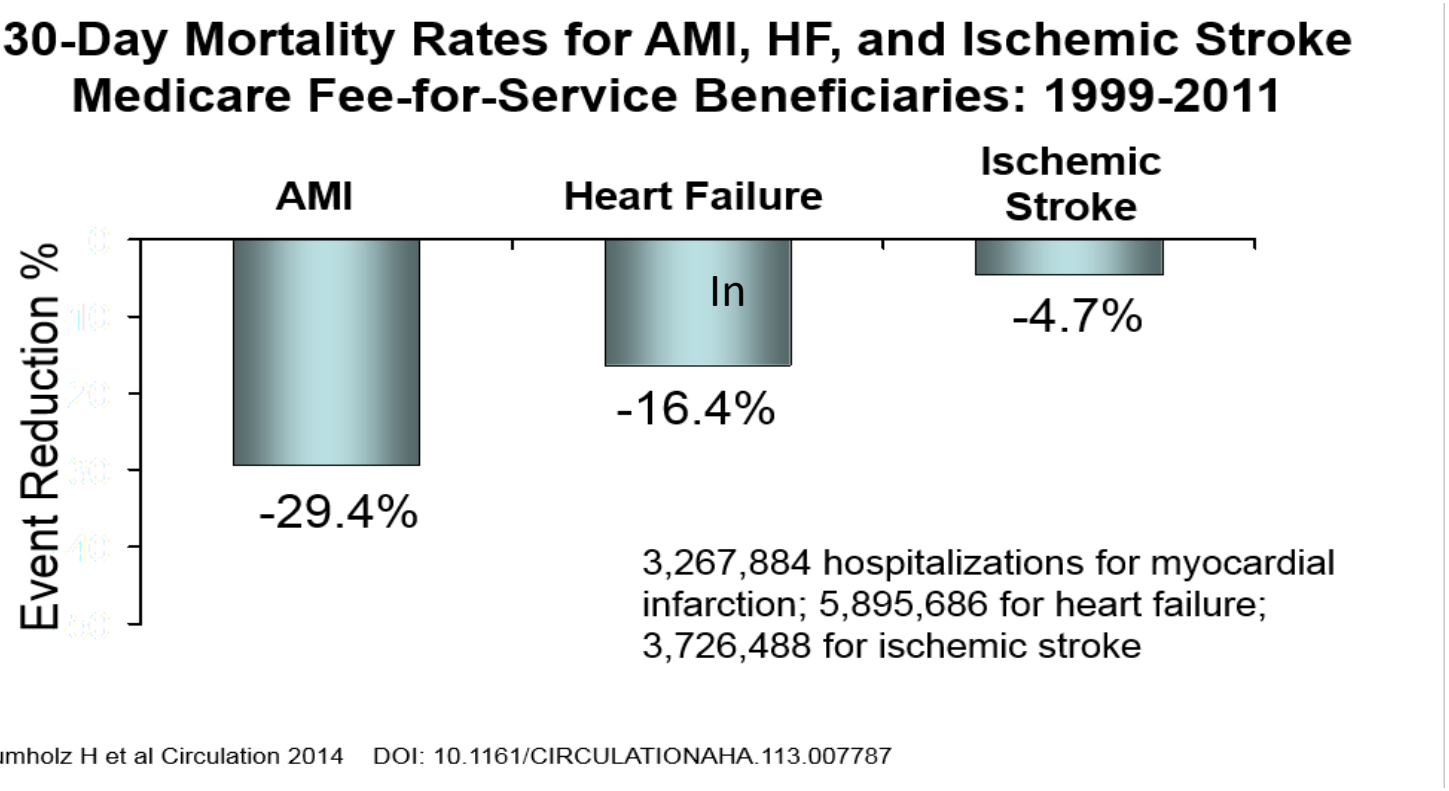
Not this…



In spite of everything, some patients will be hospitalized. As shown earlier by Dr. Smith, QI programs can be very helpful.

Population Level Impact:

Declines in AMI, HF, and Ischemic Stroke Mortality



Krumholz H et al Circulation 2014 DOI: 10.1161/CIRCULATIONAHA.113.007787

So in conclusion,


Press
Government/
Policy
Makers
United
Nations/
WHO
Winning
The War
On CVD
Public/
Civil
Society
Medical/ Scientific
Community

American Heart Association | American Stroke Association

life is why™

Thank you!
Obrigado!!

Taubert, Fortaleza, 2016

Women aren't just men in lipstick!!

- Risk of heart disease and stroke in women often underestimated due to the mistaken notion that females are protected from CVD.

- There can be some differences in clinical presentation of CVD in women leading to inadequate diagnosis and delayed referral, hospitalization or treatment.

- Better self-awareness in women regarding their CV risk factors and symptoms can improve early detection.

The Three Paradoxes

- Women have a higher prevalence of angina compared to men, yet have an overall lower prevalence of atherosclerosis and obstructive coronary artery disease.
- Symptomatic women undergoing coronary angiography have less extensive and severe CAD, despite being older with a greater risk factor burden, compared to men.
- Despite relatively less CAD, women have a more adverse prognosis compared to men.

From: Bairey Merz, C. N. Women and Ischemic Heart Disease. JACC: Cardiovascular Imaging Vol 4, No 1, 2011.