

**EACPR**

6 May 2010

**Cardiovascular prevention and  
rehabilitation, a lifelong challenge**

**After the success story:  
what are challenges for the  
future?**

**Ian M Graham**

Chairman of the 4th Joint Task Force on the  
Prevention of CVD in Clinical Practice and of  
the EACPR Prevention Implementation  
Committee

**Er, thank you for asking me to  
think of challenges, not solutions**

*It is better to be healthy than ill or dead.  
That is the beginning and end of the only  
real argument for preventive medicine.*

*It is sufficient.”*

**Geoffrey Rose**

## Nanos gigantium humeris insidentis

**Isaac Newton** 1676: “If I have seen further it is by standing on the shoulders of giants” (letter to Robert Hooke)

**John of Salisbury**, 1159

**Bernard of Chartres**, d. 1124: “We are like dwarfs standing upon the shoulders of giants, and so able to see farther than the ancients”

**“Let us now praise famous men and our fathers that begat us” (Ecclesiasticus 44:1)**

## **Some giants**

- Ancel Keys
- Jeremiah Stamler
- Geoffrey Rose
- Henry Blackburn
- Archie Cochrane
- Kalevi Pyorala

## A few of the hundreds from whom I have learned

- Luke O'Donnell
- Robert Clarke
- Pat O'Callaghan
- Marie-Therese  
Cooney
- Alexandra Dudina
- Emer Shelley
- Ronan Conroy
- Kalevi Pyorala
- Guy de Backer
- David Wood
- Lars Ryden
- Susana Sans
- Joep Perk
- Dirk de Bacquer
- Tony Fitzgerald



# CVD Prevention-The future



**Research**

Evidence based  
medicine



**Guidelines**

94,98,03,07,11

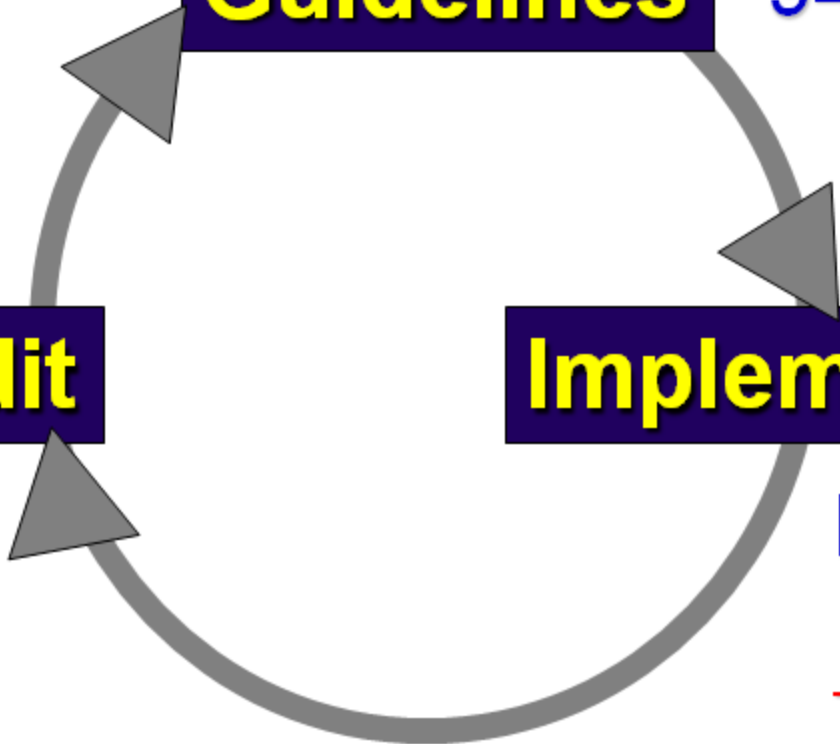
EuroAspire  
E-SURF

**Audit**

**Implementation**

PIC, politics  
and society

Thinks:Logo for  
Europrevent Dublin?



# **CVD prevention: Challenges for the future**

## **OUTLINE**

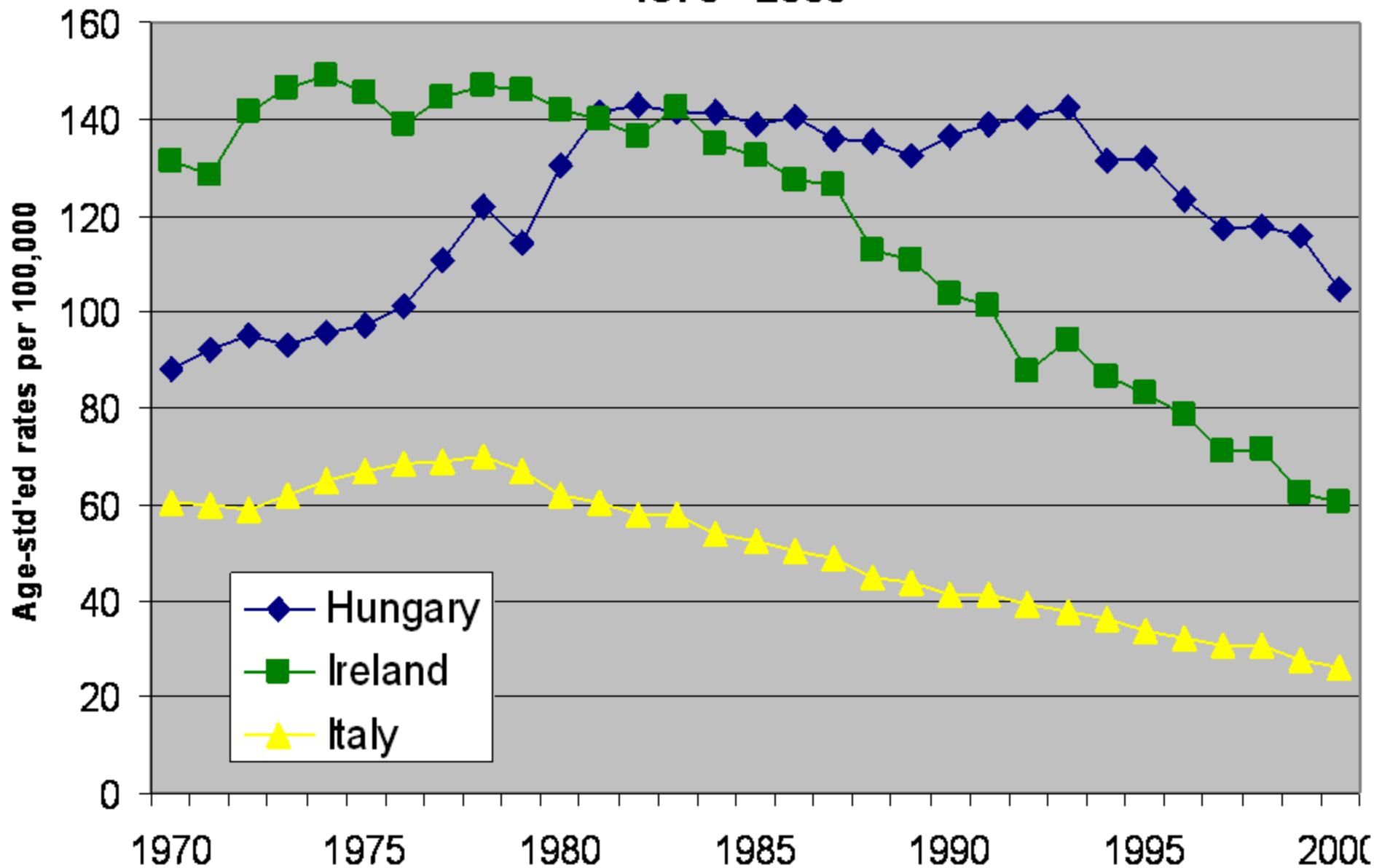
- 1. Background**
- 2. Research**
- 3. Evidence based medicine: the link between research and-**
- 4. Guidelines**
- 5. Implementation**
- 6. Audit**
- 7. Society and prevention**

# **CVD prevention: Challenges for the future**

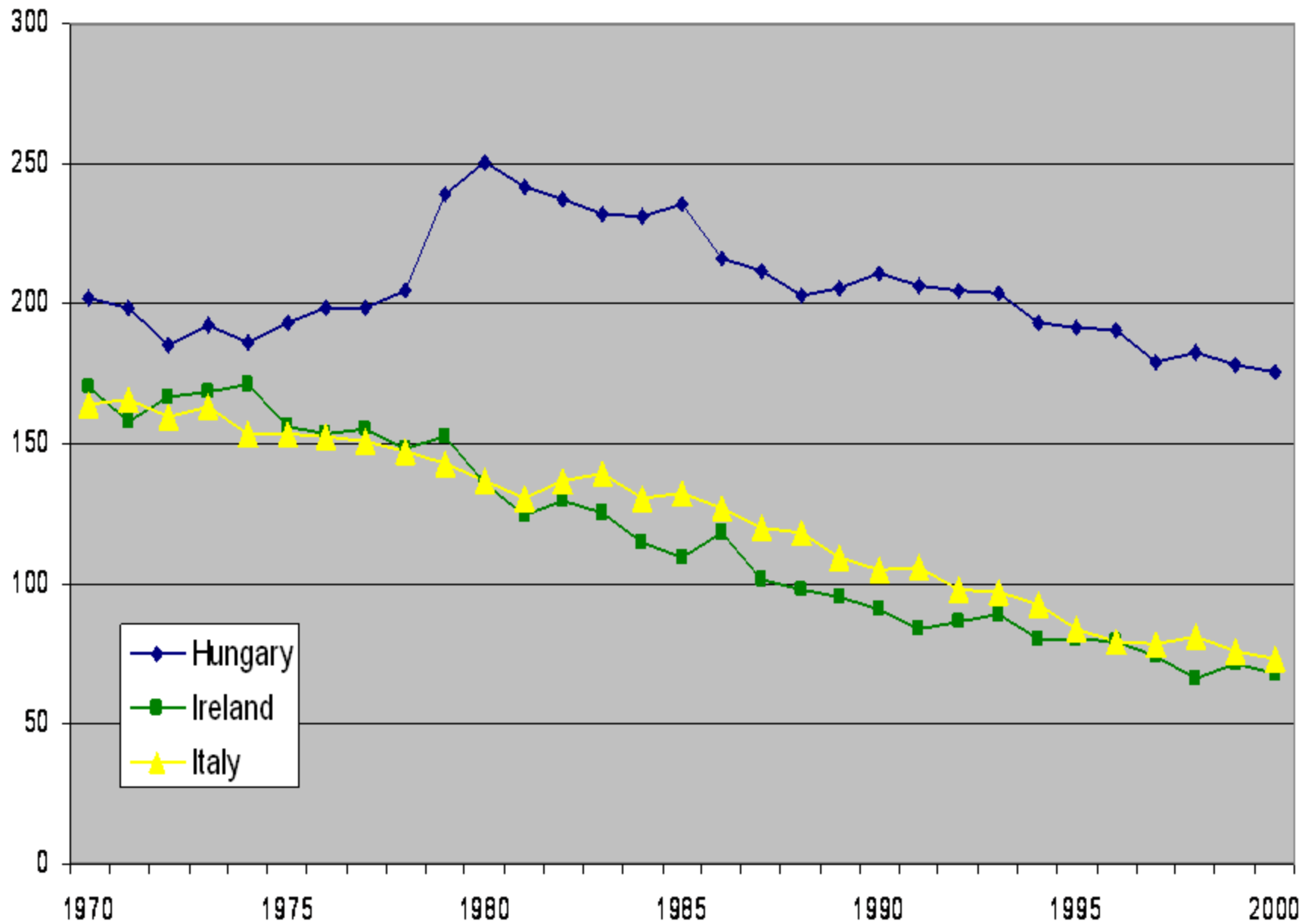
## **1. Background :**

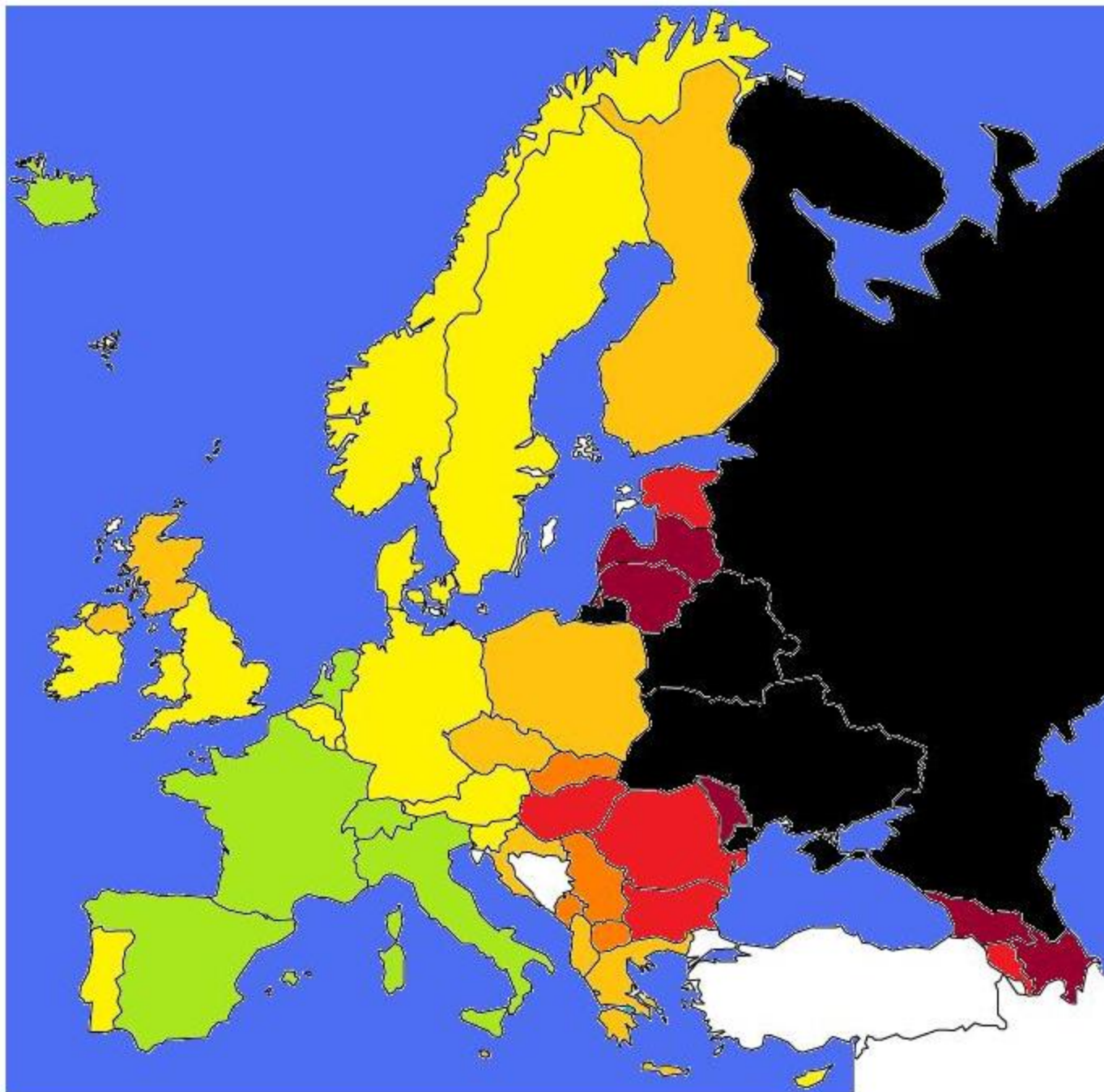
**The size of the problem: secular and geographic trends**

# Coronary Heart Disease Mortality, Men 0 - 64 years 1970 - 2000



## Stroke mortality, men all ages, age-st'ed rates per 100,000





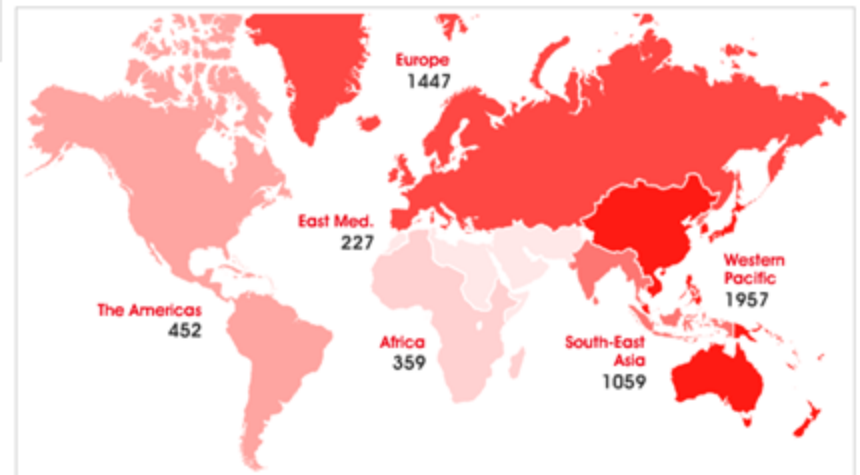
Age standardised  
CHD mortality  
rates (under 65)  
in men &  
women

# Cardiovascular Disease - The Scope of the Problem



Ischaemic Heart  
Disease

## Cerebro vascular Disease



# Changing Asia

# The impact of the CVD epidemic in the Asia Pacific region

- 50% of world's population- 1.3bn China, >1bn India
- CHD in China increased from 6% in 1950s to 39% in 1990s, while rheumatic heart disease declined from 50% to 10%
- McDonalds increased from 1 in 1990 to 1000 in 2006
- High salt intake (16G/d), high prevalence of hypertension and stroke
- Rising weight (with a high body fat)
- Those with metabolic syndrome may be more salt sensitive
- 42,000,000 diabetics
- Rising cholesterol
- Rising proportion of smokers

## The Asian Pacific Studies Collaboration (APCS)

Woodward M et al. Int J Epid 2006;35(6)1412-6

Eu J Cardiovasc Prev & Rehab 2005;12(5):484-91

- 46 studies, n=659,000
- 35 studies from Asia (16 Chinese), n=513,000
- 16.7 million deaths worldwide from CVD in 2000
- ½ the world's CVD burden now arises in the Asian-Pacific region- and rising
- Hypertension, stroke and diabetes are major problems in China
- **“Unless immediate steps are taken to implement preventive programmes, the number of Asians who are disabled by heart disease will be far greater than ever seen in the West”**. Prof Stephen MacMahon, George Institute, Univ of Sydney

**1 June 2007-  
World no tobacco day**

**312 million Chinese  
men smoke**

# CVD prevention: Challenges for the future

## 1. Background :

The size of the problem: secular and geographic trends

- Huge shift in problem from West to East.
- If we are to help, we need to understand the reasons and the reactions of different cultures
- Shift in interest among Asians from US to Europe? Do we wish to be world leaders?
- Encourage and develop ESC-Asian Pacific collaborations

# CVD prevention: Challenges for the future

1. Background

**2. Research:**

# CVD prevention in future

## 2. Research 1

- Nobody has a monopoly on knowledge. Many fine epidemiologists have started as basic scientists
- Basic science needs epidemiology (Bias, sample size, confounders, association and causality, interaction etc.)
- Will the promise of genetics finally be realised??- The individual portfolio of candidate and variability genes and polymorphisms....

# CVD prevention in future

## 2. Research 2

- The American vision (NIH) or the American curse ? (is there a profit in it? You're as good as your last grant. What me, conflicted?)- hence the financial pecking order may become based on greed, not need-
- Molecular medicine and genetics>other basic science>clinical research>epidemiology>humanities
- Need for European NIH/NHLBI? ESC/EACPR to promote?
- In public health terms, **we know enough** to promote major applied research into effective implementation strategies- including research into promoting national and EU involvement

# CVD prevention in future

## 2. Applied Research- Risk estimation

- All risk estimation systems currently available are crude and make assumptions of doubtful validity, yet work adequately well.
- Re-calibration of U.S and European systems may work adequately in other countries, but ongoing cohort studies still needed
- A massive enough cohort study to render risk estimates unnecessary would be ideal
- Even a large but simple data set such as SCORE has allowed further explorations of, for example age effects (B-coefficients are not constant), HDL-cholesterol (independent at all ages and at all levels of risk) and body weight (not independent because it works through effects on lipids and BP)
- Ongoing thanks for the generosity of the SCORE, FINRISK, CUORE and CONOR investigators.

Risk estimation- be careful about age when estimating risk...

“35 is a very attractive age: London society is full of women who, of their own free choice, remained 35 for years”

Oscar Wilde

## Talking about age...

Senescence begins  
and middle age ends  
the day your descendants  
outnumber your friends

Ogden Nash, 1902-74

# CVD prevention: Challenges for the future

1. Background
2. Research
- 3. Evidence based medicine- the link between research and guidelines: problems with the current ESC approach and suggestions**

## ESC classes of recommendations

**Class I:** Evidence/general agreement that treatment is beneficial, useful and effective

**Class II:** Conflicting evidence-

IIa: Weight of evidence in favour

IIb: Usefulness/efficacy less well established

**Class III:** Not useful/effective or may be harmful

## ESC levels of evidence

- A:** Multiple randomised clinical trials or meta-analyses
- B:** Single randomised clinical trial or large large, non-randomised studies
- C:** Consensus of experts and/or small studies, retrospective studies, registries

## 3. Grading the evidence

- The ESC system is problematic. Smoking cessation may reduce mortality by 40% and statins by 30%. Yet statins will be 1A and smoking cessation at most 1B because it is not amenable to a RCT. Trials of exercise and nutrition cannot be blinded.
- The process is not necessarily transparent- is a numerical grade truly evidence based, or just an opinion that has been given a number?
- Differing types of evidence are needed when considering, for example, lifestyle measures, causality, screening and diagnostic techniques as opposed to therapeutic interventions; the ESC system only relates to interventions

### 3. Grading the evidence: **Suggestions**

- The Guidelines Committee to convene a group to consider and perhaps revise the present grading system, examining the approaches used by SIGN, NICE and WHO GRADE. The EACPR has the skills to justify major input
- Important to liaise with WHO and AHA/ACC to work towards an agreed system
- The key question is whether the proposed intervention does more good than harm and the recommendation becomes “Do it/ don’t do it” or “probably do it/probably don’t do it”
- The ESC or EACPR to organize workshops/teaching courses on how to do a systematic review and grade evidence
- Acceptance as a guideline author might require attendance at such a course
- Guideline authors to be prepared to outline clearly how a grade was assigned and on what evidence

### 3. Grading the evidence:

#### Suggestion No 2

**“If the facts don’t suit your prejudice, it’s time to change your prejudice”**

**John Maynard Keynes**

### **3. Evidence: The principles of EBM are becoming universally accessible:**

- **BAD SCIENCE**  
Ben Goldacre. Fourth Estate 2009
- **TRICK OR TREATMENT**  
Simon Singh & Edzard Ernst. Corgi 2009
- **THE TIGER THAT ISN'T**  
Michael Blastland & Andrew Dilnot. Profile Books 2008

# CVD prevention: Challenges for the future

## OUTLINE

1. Background
2. Research
3. Evidence based medicine: the link between research and-
- 4. Guidelines**

# European Guidelines on CVD Prevention

## Fourth Joint European Societies' Task Force on cardiovascular disease prevention in clinical practice

Ian M Graham  
Chairman JTF4

New Version  
2007

# EUROPEAN GUIDELINES ON CVD PREVENTION

Committee for Practice Guidelines

To improve the quality of clinical practice and patient care in Europe

## CVD FULL TEXT AND EXECUTIVE SUMMARY

FOURTH JOINT TASK FORCE OF THE EUROPEAN SOCIETY OF  
CARDIOLOGY AND OTHER SOCIETIES ON CARDIOVASCULAR  
DISEASE PREVENTION IN CLINICAL PRACTICE

EASD  
European Association  
of Diabetes



For more information  
[www.escardio.org](http://www.escardio.org)



European Society of Cardiology (ESC)

European Association for Cardiovascular  
Prevention & Rehabilitation (EACPR)



European Society of Hypertension (ESH)

International Society of Behavioural Medicine (ISBM)



European Heart Network (EHN)

European Association for the Study of Diabetes (EASD)



European Atherosclerosis Society (EAS)

International Diabetes Federation Europe (IDF-Europe)



European Society of General Practice/Family Medicine (ESGP/FM)/Wonca

European Stroke Initiative (EUSI)



# JTF 4 & 5 on Prevention of CVD

## PHILOSOPHY

- Prior to 1994, there was a plethora of similar but confusingly different guidelines. The JTF partnership wishes to address this by finding common ground
- Each partner must perceive an advantage in giving to and learning from this process, and that the needs of their organization will be served and strengthened. This implies high level, interactive participation, not just observer status
- The production of individual partner's more detailed guidelines is encouraged, specifically as an amplification of the agreed Joint Guidelines

**BUT**

**Compatibility with the Joint Guidelines is regarded as critically important**

# Desirable attributes of clinical guidelines

1. **Validity**: Predicted health benefits/costs achieved?
2. **Reproducibility**: Same evidence and method produces same recommendations?
3. **Reliability**: Same interpretation in similar clinical circumstances?
4. **Representative development**: Key groups affected involved?
5. **Clinical applicability**: Useful for real-life patients?
6. **Flexibility**: Exceptions and patient preferences permitted?
7. **Clarity**: Unambiguous and user friendly?
8. **Meticulous documentation**: Who? What assumptions? What evidence was collected and how? How graded?
9. **Scheduled review**: When and how

# JTF4 Guidelines on CVD Prevention

## Suggestions for JTF5

- **Philosophy**- still appropriate
- **Evidence base**- Not explicit enough, partly because grading system inappropriate. Debate with ESC Guidelines Committee
- **Priorities and targets**- Still appropriate?
- **Full text**- far too long!- treat as a resource document. Summary boxes from the pocket guidelines to make navigation easier
- **Pocket guidelines**- better, more accessible
- **Single page**- summarizes the key points
- **The challenge**- to keep the key points in the health professional's mind- and on his/her desk

## JTF5: are the **PRIORITIES** for prevention in clinical practice still appropriate?

1. Patients with **established atherosclerotic CVD**
2. Asymptomatic individuals who are at **increased risk** of CVD because of
  - 2.1 Multiple risk factors resulting in raised total CVD risk ( $\geq 5\%$  SCORE 10-year risk of CVD death)
  - 2.2 Diabetes type 2 and type 1 with microalbuminuria
  - 2.3 Markedly increased single risk factors especially if associated with end-organ damage
- 3 Close relatives of subjects with premature atherosclerotic CVD or of those at particularly high risk

## **JTF5: Are the TARGETS still appropriate?**

**People who stay healthy tend to have certain characteristics:**

- 0** No tobacco
- 3** Walk 3 km daily, or 30 mins any moderate activity
- 5** Portions of fruit and vegetables a day
- 140** Blood pressure less than 140 mm Hg systolic
- 5** Total blood cholesterol <5mmol/l
- 3** LDL cholesterol <3 mmol/l
- 0** Avoidance of overweight and diabetes

**0 3 5 140 5 3 0**

**People who stay healthy tend to have certain characteristics:**

- 0** No tobacco
- 3** Walk 3 km daily, or 30 mins any moderate activity
- 5** Portions of fruit and vegetables a day
- 140** Blood pressure less than 140 mm Hg systolic **130**
- 5** Total blood cholesterol <5mmol/l **4.5, 4**
- 3** LDL cholesterol <3 mmol/l **2.5, 2**
- 0** Avoidance of overweight and diabetes

# CVD prevention: Challenges for the future

## OUTLINE

1. Background
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- 5. Implementation**

## Utility of Guidelines

- Guidelines alone are good for the vanity of the authors and bad for rain forests; they are a waste of time without a defined implementation strategy
- Hence the **Prevention Implementation Committee** and other implementation efforts

**“Said is not heard,  
heard is not understood,  
understood is not agreed upon,  
agreed is not applied,  
applied is not at all maintained.”**

**Konrad Lorenz, 1903-1969**

[Thank you, Ulrich Keil]

# European Prevention implementation is complex- many players are involved

1. The EU- vital but no legislative framework
2. Individual countries and their Departments of Health- like their independence
3. ESC/EACPR
4. JPG partner European Specialist groups
5. National Cardiac and other specialist and GP societies
6. Nurses and allied health professional, European and National
7. Educators- 1<sup>st</sup> 2<sup>nd</sup> & 3<sup>rd</sup> level
8. Industry- Pharma, Food, Exercise, Neutral

**It's like herding cats!**

# The European Heart Health Charter and the Joint European Guidelines on cardiovascular disease prevention

- The European Heart Health Charter advocates the development **and implementation** of comprehensive health strategies, measures and policies at European, national, regional, and local level that promote cardiovascular health and prevent CVD
- The CVD prevention guidelines aim to assist physicians and other health professionals to fulfil their role in this endeavour, particularly with regard to achieving effective preventive measures in day-to-day clinical practice
- They reflect the consensus arising from a multi-disciplinary partnership between the major European professional bodies represented

# Factors impeding the implementation of cardiovascular prevention guidelines: findings from a survey conducted by the European Society of Cardiology

Graham IM, Stewart M & Hertog M for the Cardiovascular Round Table Task Force .  
EJCPR 2006:13; 839-45

- Market research survey
- In-depth interviews with 66 cardiologists & 154 primary care physicians (N=220)
- 6 focus groups involving 49 physicians
- D,F,I,E,UK,P

# *Factors Impeding the Practical Implementation of Cardiovascular Prevention*

**An international market research project in 6 countries:  
Germany, France, Italy, Spain, the United Kingdom and Poland**



## **- PRESENTATION CHARTS -**

This study was commissioned by  
***European Society of Cardiology (ESC)  
Cardiovascular Round Table (CRT)  
Task Force 4***

### **Technical staff at Psyma International:**

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e-mail: [info@psyma-international.com](mailto:info@psyma-international.com)  
website: [www.psyma-international.com](http://www.psyma-international.com)

**Study No: 41057021  
December 2002**

# Barriers to implementation

REACT study, Hobbs FDR, Erhardt L, Family Practice 2002  
ESC CRT Market research survey, Graham I, EJCPR 2006

- **Lack of patient compliance**
- **Lack of time**
- **Lack of budget**
- **Lack of clarity (complicated, confusing, too much information)**
- **Guidelines too general (do not fit my patient)**
- **Unhelpful government health policies (assistance, remuneration, patient education)**

## **SUMMARY:**

### **Key factors to increase usage of guidelines**

- **Simple, clear, credible national guidelines**
- **Sufficient time**
- **Facilitatory government policy:**
  - Defined prevention strategy**
  - Reimbursement for health professionals**
  - public awareness and education from school on**
- **Multidisciplinary implementation strategy-  
with teeth**

# Implementation strategies:

## European level

1. **Publication of Guidelines** in relevant journals
2. The **Prevention Toolkit**, comprising the Guidelines (paper and electronic), a slidekit and HeartScore stand alone
3. A defined **dissemination strategy**
4. **Presentations at international conferences** of the participating societies
5. **Directly influencing EU health policy**- for example through the Luxembourg Declaration and the European Health Charter- the product of a partnership between the EU, WHO, ESC and EHN

# Implementation Strategies:

## National Level

- The ESC asks National Cardiac Societies to nominate a **National Co-ordinator** to develop and lead a **multidisciplinary implementation group** which will develop-
- National guidelines adapted to local needs
- Partnerships between politicians, health professionals, educators and business
- A defined communication strategy
- An evaluation strategy
- BUT it must have teeth. This requires high level political representation if it is not to be a talking-shop. Indeed...
- This process has been variably successful. It is now proposed that there should be two national co-ordinators- one a cardiologist and one from the Department of Health/ Health Service Executive

**Guideline Learning Tool-**  
a new, electronic, interactive  
learning tool based on JTF4 & 5

## GLT-AIMS

- **To outline the important issues in the epidemiology of cardiovascular disease**
- **To make practical prevention easier through practical examples**

# The Guideline Learning Tool

- The Guideline Learning Tool is intended for both group teaching and as a personal learning tool. It has four parts-
  1. An introduction dealing with policy, epidemiology and the need for Guidelines
  2. Interactive cased based examples
  3. How well are we doing in prevention? Audit
  4. Why is the implementation of guidelines so difficult?
- Thus the learning tool is interactive in two ways- to encourage interaction with the an audience, and electronic interaction when used by an individual
- The intention is to have it recognised for CME

## Implementation of prevention

“To regain my youth I would do anything in the world, except take up exercise, get up early, or become respectable”

Oscar Wilde

# CVD prevention: Challenges for the future

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**How big is the gap  
between  
recommendations and  
practice?**

**Has there been an  
improvement over time?**

# EUROASPIRE- Surveys of patients with proven CHD

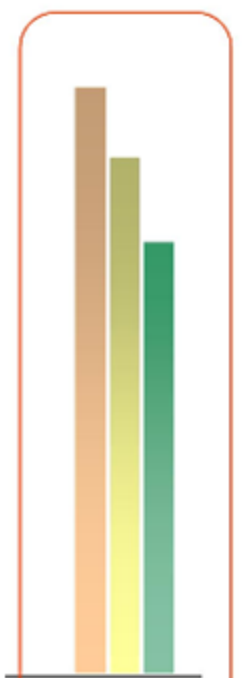
- **EASP I:** 1995-1996. 9 countries
- **EASP II:** 1999-2000. 15 countries
- **EASP III:** 2005-2007. 22 countries
  
- 6 months after first CABG, PCI, or ACS without prior CABG or PCI. Now extended to primary care and stroke
- Considerable potential to improve risk factor control:



### Use of BP meds

#### Total Chol

*P*<0.0001



ALL  
6.19  
5.45  
4.56

S2 vs. S1 : *P*<0.0001  
S3 vs. S2 : *P*<0.0001  
S3 vs. S1 : *P*<0.0001

#### BP control

*P*=0.83



ALL  
44.7%  
45.5%  
44.6%

S2 vs. S1 : *P*=0.83  
S3 vs. S2 : *P*=0.57  
S3 vs. S1 : *P*=0.72

*P*<0.0001



ALL  
84.5%  
90.6%  
96.8%

S2 vs. S1 : *P*=0.001  
S3 vs. S2 : *P*=0.002  
S3 vs. S1 : *P*<0.0001

#### Diabetes

*P*=0.004

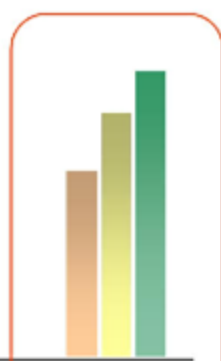


ALL  
17.4%  
20.1%  
28.0%

S2 vs. S1 : *P*=0.21  
S3 vs. S2 : *P*=0.02  
S3 vs. S1 : *P*=0.001

#### Obesity

*P*=0.0006

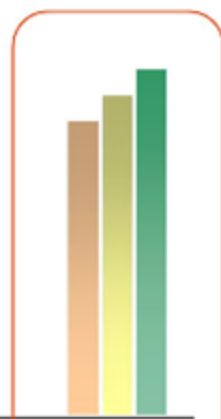


ALL  
25.0%  
32.6%  
38.0%

S2 vs. S1 : *P*=0.009  
S3 vs. S2 : *P*=0.051  
S3 vs. S1 : *P*=0.0002

#### BMI

*P*=0.001



ALL  
27.8  
28.5  
29.2

S2 vs. S1 : *P*=0.02  
S3 vs. S2 : *P*=0.04  
S3 vs. S1 : *P*=0.0004

#### Smoking

*P*=0.64



ALL  
20.3%  
21.2%  
18.2%

S2 vs. S1 : *P*=0.83  
S3 vs. S2 : *P*=0.37  
S3 vs. S1 : *P*=0.48

# E-SURF

The European SURvey of Risk  
Factor Management

# E-SURF: The Proposal

- **To construct a system for auditing risk factor control in subjects with established CVD that is sufficiently simple, quick and easy to use that-**
- It can be conducted within 60- 90 seconds at routine clinic attendances to minimise selection and participation bias
- Piloting in Ireland (40 centres, 30 responses so far), Belgium and Croatia. Then assess if suitable for European usage
- Would be easy enough to use to allow annual or bi-annual repeat surveys to audit secular changes in risk factor control
- Aim to complement the much more sophisticated EuroAspire

## E-SURF-IE Data Collection Sheet

Demographics			
Initials			Hospital:
Date of birth:			MRN:
Gender:	<input type="checkbox"/> Male	<input type="checkbox"/> Female	Date of examination:
CHD Category:	<input type="checkbox"/> CABG	<input type="checkbox"/> PCI	<input type="checkbox"/> Acute coronary syndrome
	<input type="checkbox"/> Stable AP	<input type="checkbox"/> Public patient	<input type="checkbox"/> Private patient
Was the patient admitted to hospital in the last year with for a CHD related reason?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
Risk factor history		Most recent risk factor measurements	
Smoking history	<input type="checkbox"/> Current smoker		Systolic BP
	<input type="checkbox"/> Ex smoker		Diastolic BP
	<input type="checkbox"/> Never smoked		Heart rate
Physical activity	<input type="checkbox"/> Less than below		Waist circumference
	<input type="checkbox"/> Moderate (walking or equivalent) 30 mins 3 to 5 times per week		Height
	<input type="checkbox"/> More than this		Weight
			Fasting bloods within 1 year?
Known history of (Patient was told of diagnosis previously)	Yes	No	<input type="checkbox"/> Yes <input type="checkbox"/> No
	<input type="checkbox"/>	<input type="checkbox"/> Hypertension	If yes, date of fasting bloods:
	<input type="checkbox"/>	<input type="checkbox"/> Dyslipidaemia	Fasting total chol
	<input type="checkbox"/>	<input type="checkbox"/> Diabetes type 2	Fasting LDL chol
	<input type="checkbox"/>	<input type="checkbox"/> Diabetes type 1	Fasting HDL chol
			Fasting triglycerides
Did the patient ever participate in cardiac rehab?	<input type="checkbox"/> Yes, fully or in part		Fasting glucose
	<input type="checkbox"/> No		HbA1C (if diabetic)
Medications			
<input type="checkbox"/> Any anti-platelet	<input type="checkbox"/> Any beta-blocker	<input type="checkbox"/> Any ACE inhibitor	<input type="checkbox"/> Any nitrate
<input type="checkbox"/> Any statin	<input type="checkbox"/> Any Ca antagonist	<input type="checkbox"/> Any diuretic	<input type="checkbox"/> Any insulin
<input type="checkbox"/> Any other lipid lowering agent	<input type="checkbox"/> Any other anti-hypertensive	<input type="checkbox"/> Any ARB	<input type="checkbox"/> Any oral hypoglycaemic agent

# CVD prevention: Challenges for the future

## OUTLINE

1. Background
2. Research
3. Evidence based medicine: the link between research and-
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# WHO report on the Prevention of CHD (and hence CVD) defined three components to preventive strategy:

1. Population

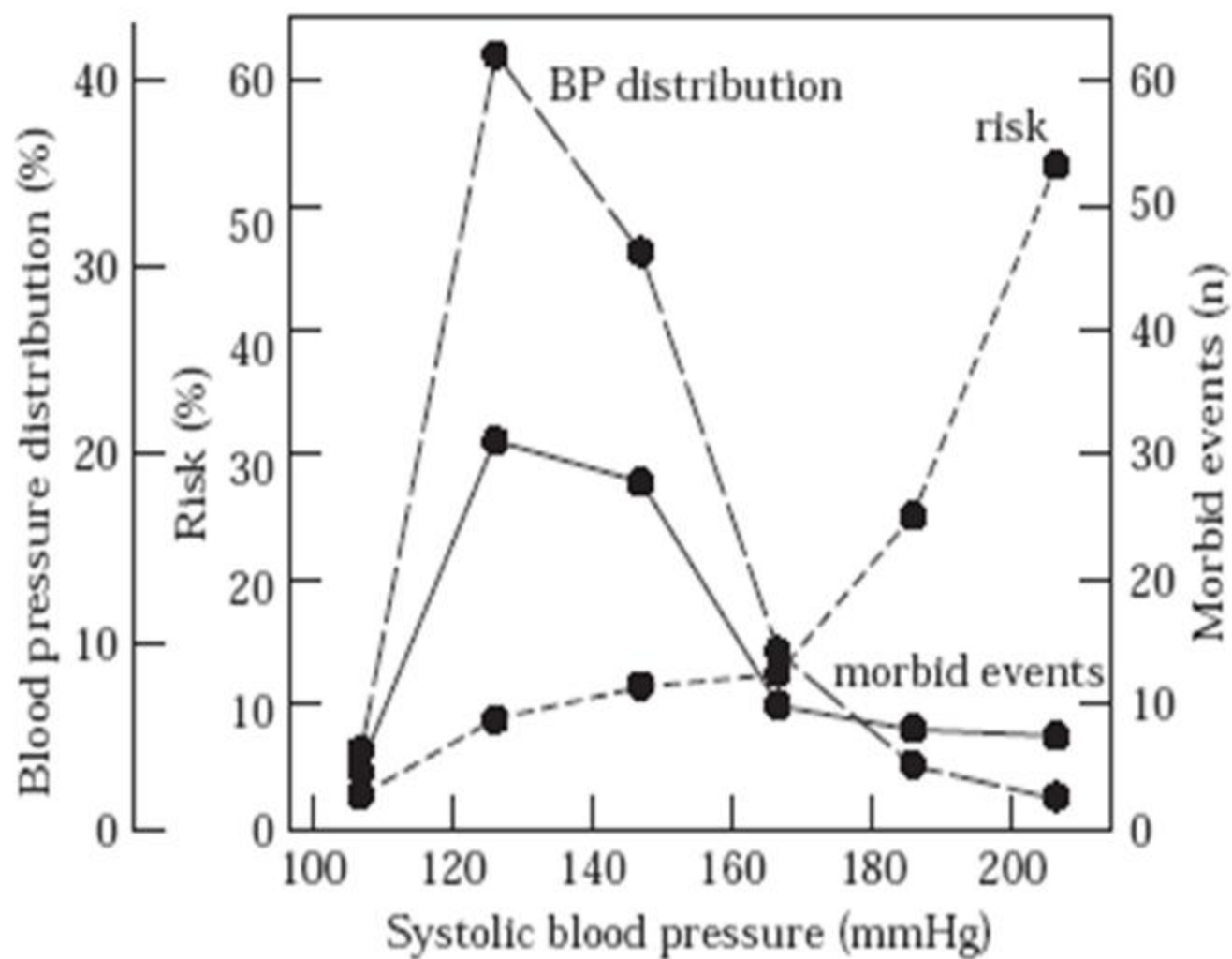
2. High risk

3. Secondary prevention

- High risk individuals gain most from preventive measures- but most CVD deaths come from subjects with only mildly increased risk because they are so numerous
- The three strategies should be complementary, not competitive
- Policy is defined further in the Osaka declaration

**“Small but widespread risks: a public health disaster?”** **Geoffrey Rose**

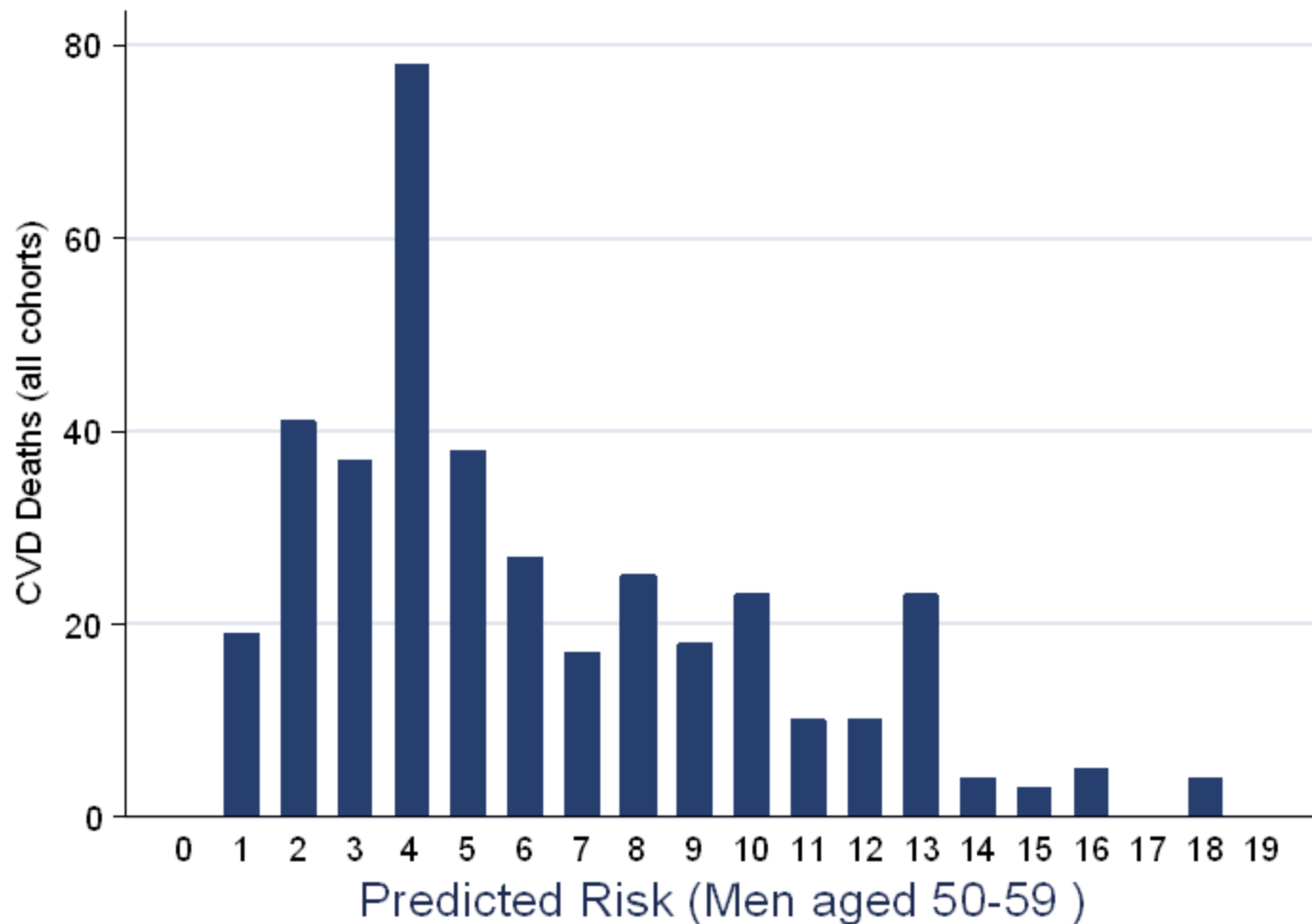
- “A large number of people exposed to a small risk may generate many more cases than a small number exposed to a large risk”
- The prevention paradox: “A preventive measure that brings large benefits to the community offers little to each participating individual”



Wilhelmsen L. Salt and hypertension. Clin Sci 1979;57:455S-8S

**Fig 1**

The expected number of CVD deaths at increasing levels of predicted risk. Illustration of the fact that most events occur in low risk subjects with few deaths among high risk subjects.



# Re-evaluating Rose: Benefits of population and high risk prevention strategies

M-T Cooney, A Dudina, P Whincup, S Capewell, A Menotti,  
P Jousilahti, I Nolstad, R Oganov, T Thomsen, ATverdal, H  
Wedel, L Wilhelmsen, I Graham

On behalf of the SCORE investigators

M-T Cooney performed the statistical analyses.  
I Graham is project leader of the SCORE project



## Methods

- Study population: SCORE dataset - high risk countries only.
- Excluded those with previous CVD and diabetes
- Over 125,000 individuals included
- Calculated SCORE risk (10 year risk of CVD mortality) for each individual

*Conroy et al, The SCORE (Systematic Coronary Risk Evaluation) Project, 2003, Eur Heart J*

# Population or high risk? Examples

<b>Population reduction of 5% each in cholesterol, BP and smoking</b>	<b>High risk approach, 40% uptake, 100% compliance</b>	<b>High risk approach, 60% uptake, 100% compliance</b>
<b>5403</b>	<b>2911</b>	<b>4372</b>
<b>But how much of the benefit will be realised how soon? See North Karelia experience</b>	<b>Compliance estimate unrealistic so benefits exaggerated.</b>	

# Conclusions

- The population and high risk strategies should be seen as complementary and not competitive
- Both are still applicable
- Population strategies -
  - appropriate mechanism for reducing the incidence of disease
- High risk strategies -
  - reduce risk of CVD in those already at high risk
- We have calculated the effects of the differing levels of intervention
- This may be of assistance to health planners

# Challenges for the future of CVD prevention 1

- **The problem:** CVD is rising worldwide. Asia is set to suffer a far greater epidemic than experienced in the West.
- **Research:** Epidemiology can work with and inform basic science and genetics. There is already ample knowledge to justify increased applied research into implementation including personal, social and political aspects. Greed versus need? EHLBI?
- **The evidence base for Guidelines:** Current grading systems are insufficient and give excessive weighting to drug treatments. Both research and consensus are needed

# Challenges for the future of CVD prevention 2

- **Guidelines:** The partnership concept and philosophy adopted by the European Guidelines are appropriate. JTF5 Guidelines should be short, succinct, accessible and transparently evidence-based
- **Implementation:** The principles are easy but the practicalities are complex because of the diversity of European interests. How much can National co-ordinators realistically achieve? Need to engage at a higher level; ESC European Affairs Committee critical
- **Audit:** EuroAspire has shown us the way. Is a pan-European simpler audit such as E-SURF realistic?

# Challenges for the future of CVD prevention 3

- **Society and prevention:** Community and high risk approaches are complementary
- The likely benefits of each can be quantified
- “Medicine and politics cannot and should not be kept apart
- The real challenge for health professionals is to make the issues accessible so that people can make their own decisions regarding both personal risk and the extent to which they expect governments to make policy decisions that enhance health

**“The primary determinants of disease are mainly economic and social, and therefore the remedies must be economic and social. Medicine and politics cannot and should not be kept apart”**

**Geoffrey Rose**

**Thank you**

My doctor's issued his decree  
That too much wine is killing me,  
And furthermore his ban he hurls  
Against my touching naked girls.

How then? Must I no longer share  
Good wine or beauties, dark and fair?  
Doctor, goodbye, my sail's unfurled,  
I'm off to try the other world.

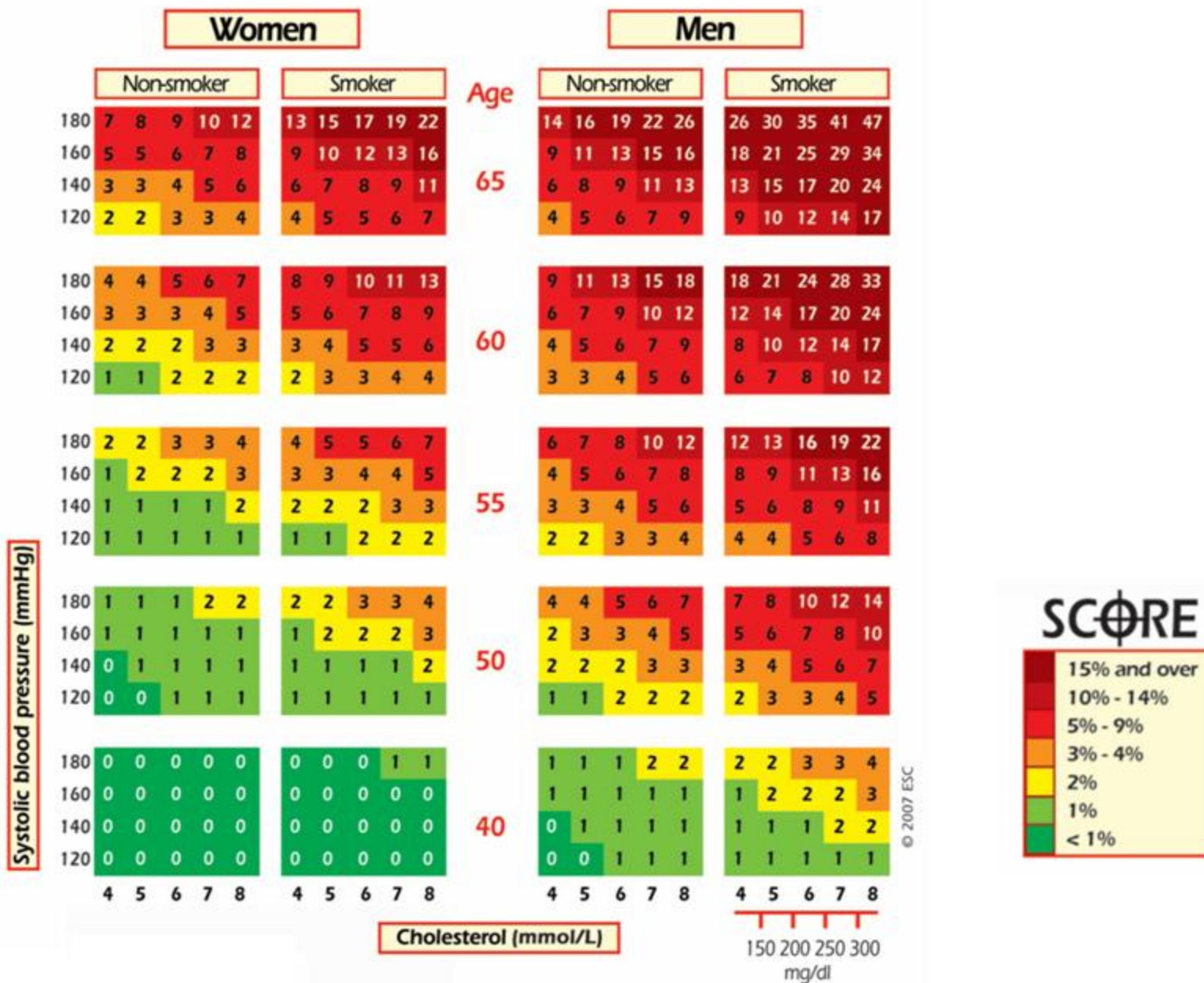
-Dante Gabriel Rossetti, 1867

# **CVD Prevention:**

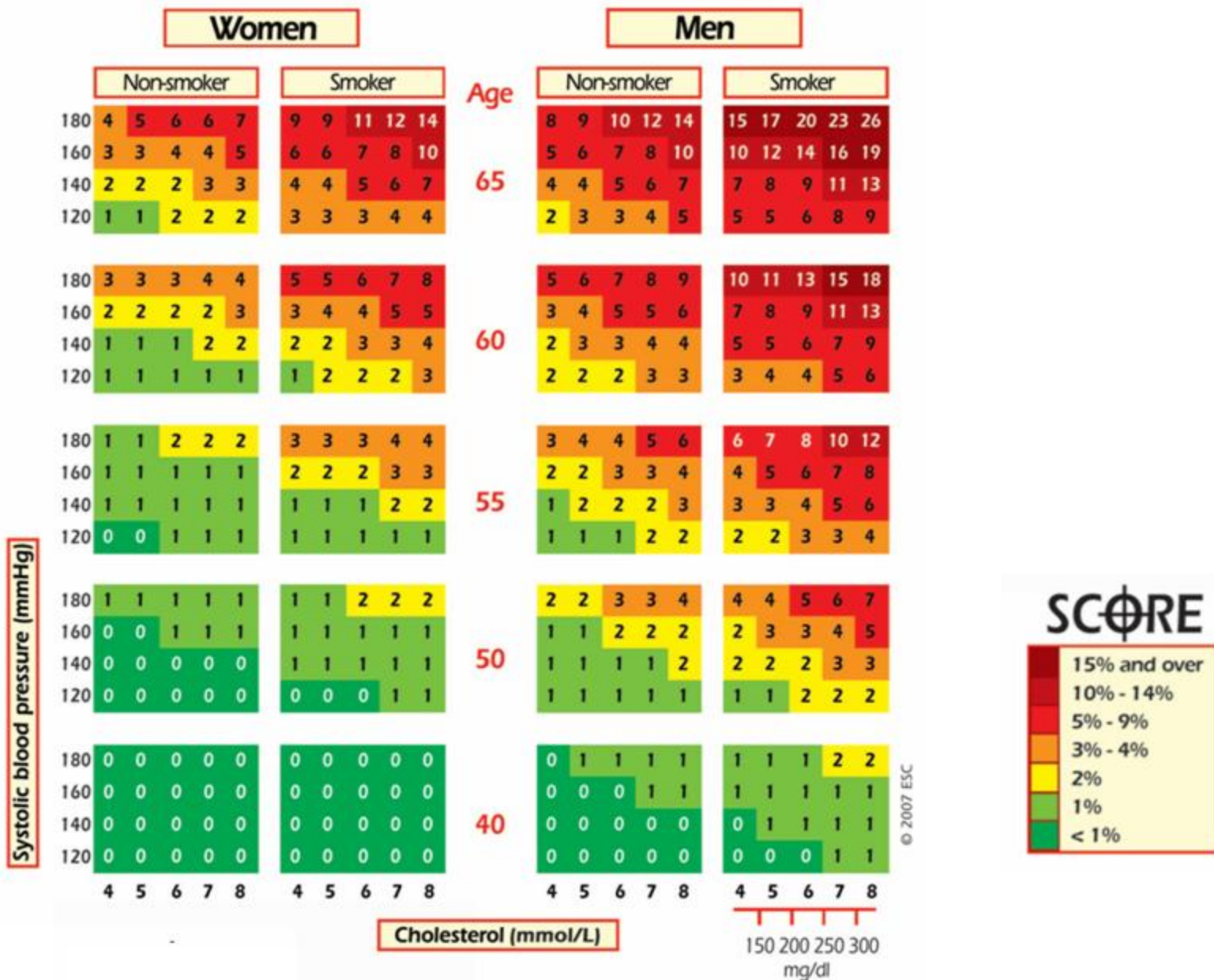
## **CHALLENGES**

- **Inactivity**
- **Obesity**
- **Stroke**
- **Heart failure**
- **Gender and social class inequalities**
- **Renal failure**
- **Implementation**

# 10 year risk of fatal CVD in high risk regions of Europe

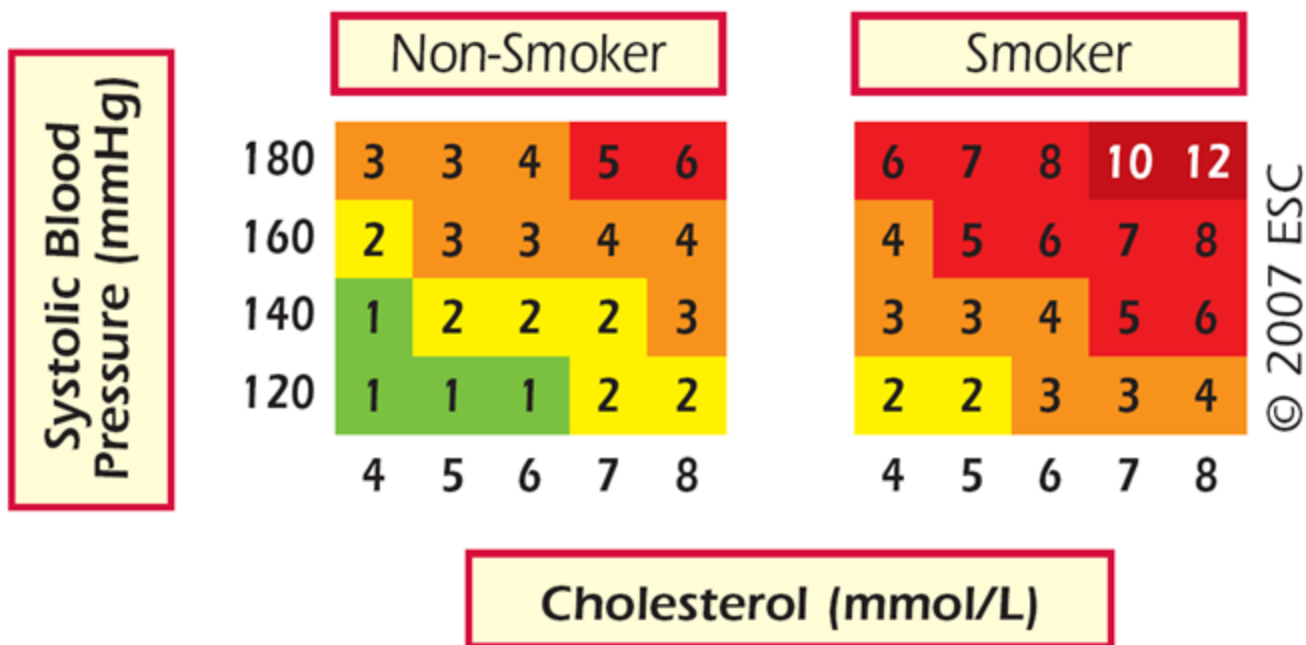


# 10 year risk of fatal CVD in low risk regions of Europe



# Relative Risk Chart

This chart may be used to show younger people at low absolute risk that, relative to others in their age group, their risk may be many times higher than necessary. This may help to motivate decisions about avoidance of smoking, healthy nutrition and exercise, as well as flagging those who may become candidates for medication



## **JTF5 - will it be different?**

- **Chairperson- Prof Joep Perk**
- **Detailed suggestions to simplify the process available (IG)**
- **Electronic version of JTF4 available**
- **Single format for submissions essential**
- **SCORE developments**
- **Will rehabilitation be included? logical (but political...)**
- **? Make pocket guidelines the summary**
- **Continue to use figures in main text**
- **One page card critical**
- **Tie more closely to interactive teaching?**

## **Additional knowledge needed?**

- **Commissioned surveys on what additional information is needed to inform strategy (by EACPR?)**
- **Modelling exercises on effects of implementation strategy (by EACPR?)**
- **Inventories of prevention in different countries to allow benchmarking**
- **Subsequent development of educational materials**

**Joint Prevention Group  
EACPR Implementation Committee  
Prevention Implementation  
Committee**

**The implementation of  
current CVD prevention  
guidelines**

**Ian M Graham**

Give me a doctor partridge plump,  
short in the leg and broad in the rump,  
an endomorph with gentle hands,  
who'll never make absurd demands  
that I abandon all my vices,  
or pull a long face in a crisis,  
but with a twinkle in his eye,  
will tell me that I have to die.

-W H Auden

Give me a doctor underweight,  
computerised and up to date.  
A businessman who understands  
accountancy and target bands.  
Who demonstrates sincere devotion  
to audit and to health promotion-  
but when my outlook's for the worse  
refers me to the practice nurse

-MariaCampkin

**Provided you eat sensibly  
stay off the beer, cigarettes  
and whisky, don't take any strenuous  
exercise and keep away from  
women Mr Coard, you could live  
for another twenty minutes.**



# Implementation strategies:

## National level

1. Adapt the European Guidelines to suit the local culture
2. Formation of a **multidisciplinary implementation group**: professional bodies, medical and other health professionals, basic scientists, educators, business people, politicians. Needs to be more than merely advisory: should inform and shape health policy
3. Multi-faceted communications using all available media to doctors, medical and para-medical students, and ultimately all adults and children, including schools

# Implementing prevention:

## Basic requirements-

- **National Co-ordinators** to lead a **multidisciplinary implementation group** which will develop-
- National guidelines
- Partnerships between politicians, health professionals, educators and business
- A defined communication strategy
- An evaluation strategy
- BUT it must have teeth. This requires high level political representation if it is not to be a talking-shop

# The future of prevention

Reality depends upon your point  
of view

# IRELAND



THE AMERICAN VISION

# IRELAND



THE BRITISH VIEW

# IRELAND

A stylized map of Europe with Ireland highlighted in red. The rest of the map is in shades of brown and tan. The word 'IRELAND' is written in a large, black, serif font at the top left. At the bottom, there is a white banner with the text 'THE EUROPEAN VIEW' in a black, sans-serif font.

*THE EUROPEAN VIEW*

# IRELAND



THROUGH IRISH EYES

# Changing Asia

Janus ED. *Circulation* 1996;94:2671-73

- 50% of the world's population  
>1 bn China, 1bn India, >200m Indonesia
- Very varied cultures, demography & economic development
- Rapid epidemiological transition in many parts to the Western way of death
- Fat intake <20%- >30% of total calories
- Cholesterol levels 2.8 mmol/l (110 mg/dl)- 5.7 (220)
- Cigarettes 30-70% in men, 3-10% in women
- Hypertension and stroke major problems, especially in Northern Asia
- ~50 % of the world's diabetics live in China
- Metabolic syndrome may be less well tolerated
- **QUESTION:** Are American and European risk estimation systems, priorities, objectives and targets and strategies relevant? In Beijing? In rural China?