

Coronary Artery Disease Risk Factors

Primary and secondary prevention

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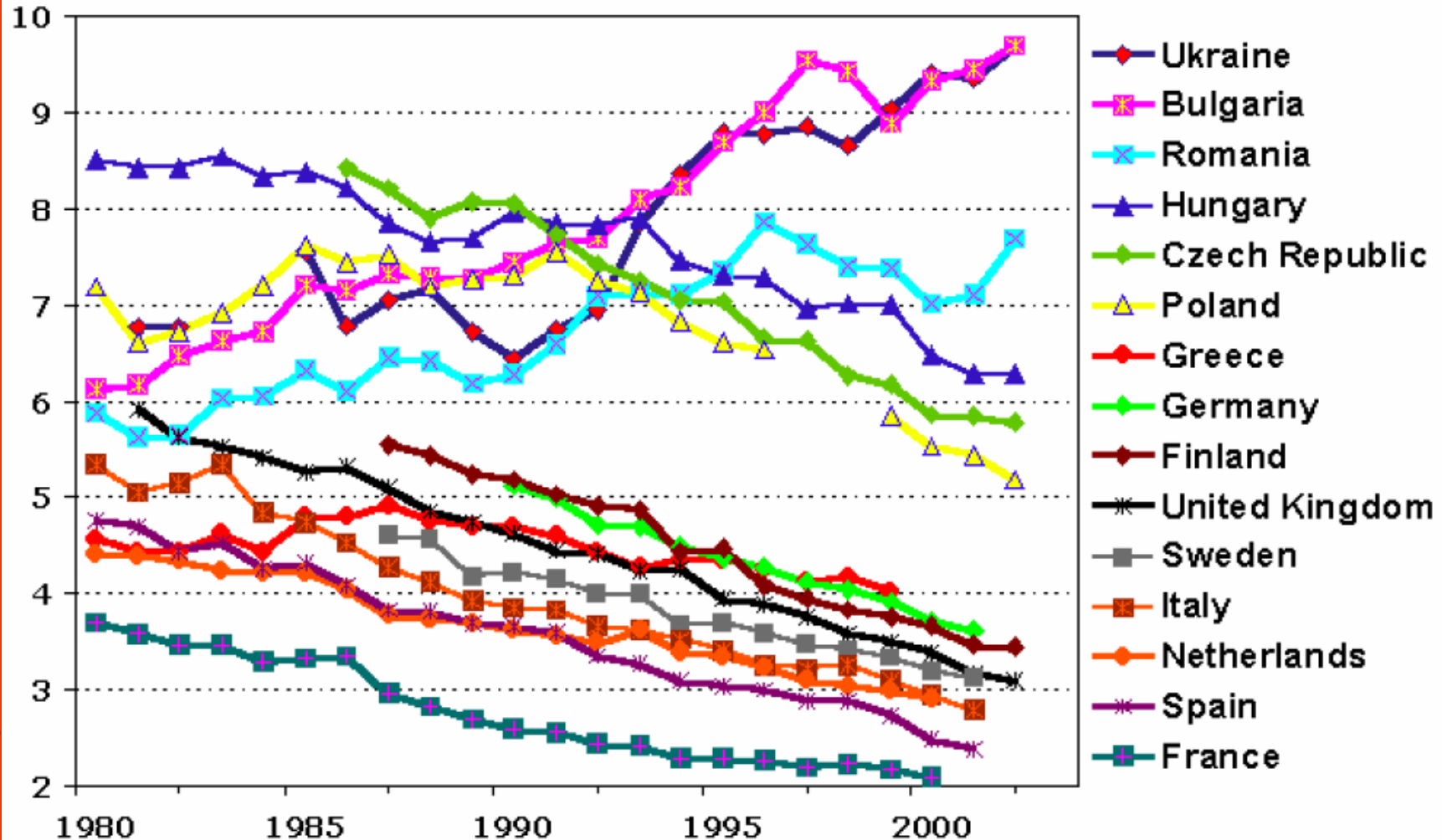


- Perception ... may be misleading
- Ischemic Heart Disease: No Problem
- Risk factors are not a problem
- Someone else will take care of it
- Well, revascularization solves the problem
- New, better drugs replace the old ones

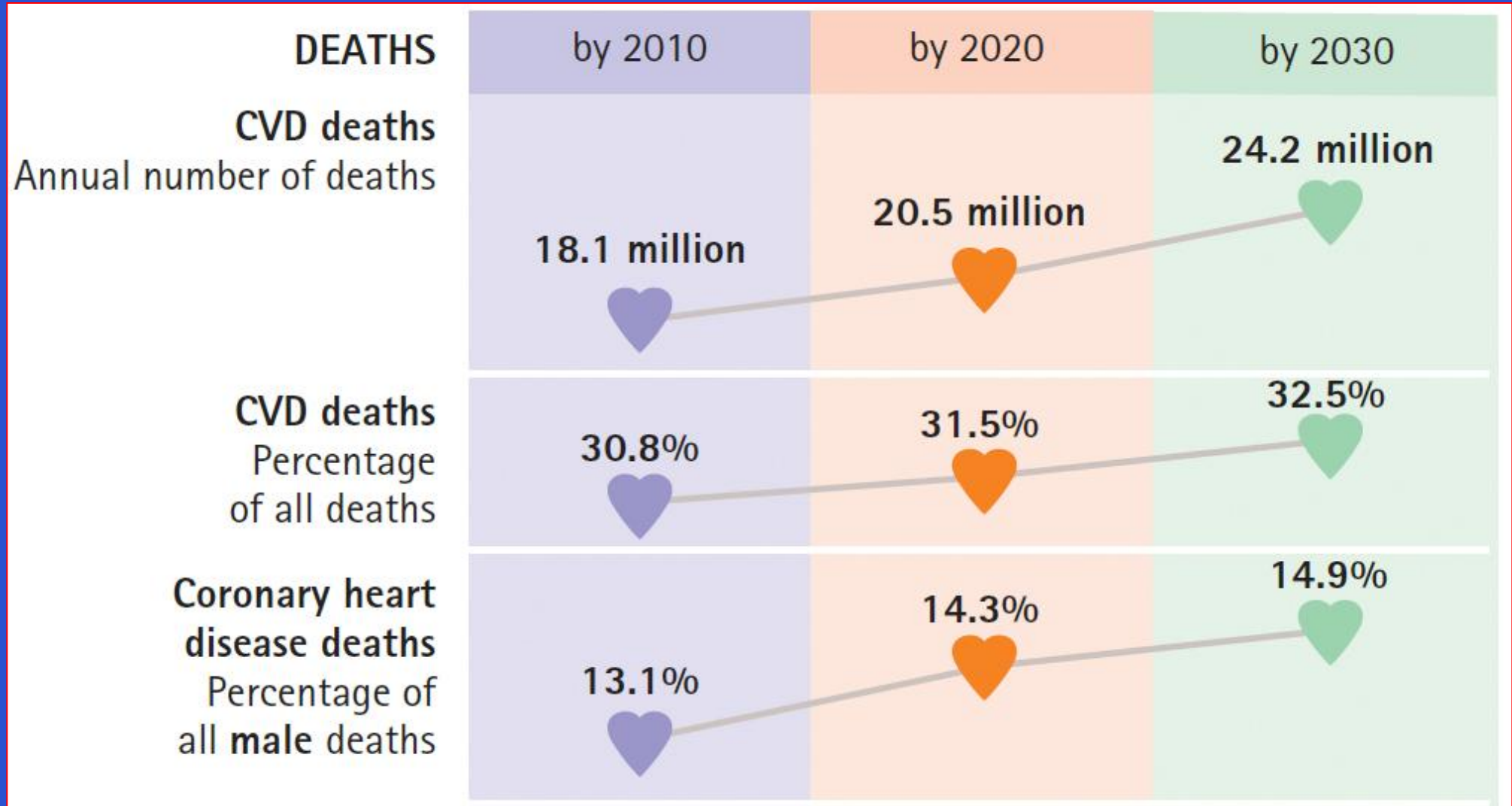
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CAD Risk Factors & Prevention

Age and gender standardised cardiovascular mortality per 1,000 inhabitants

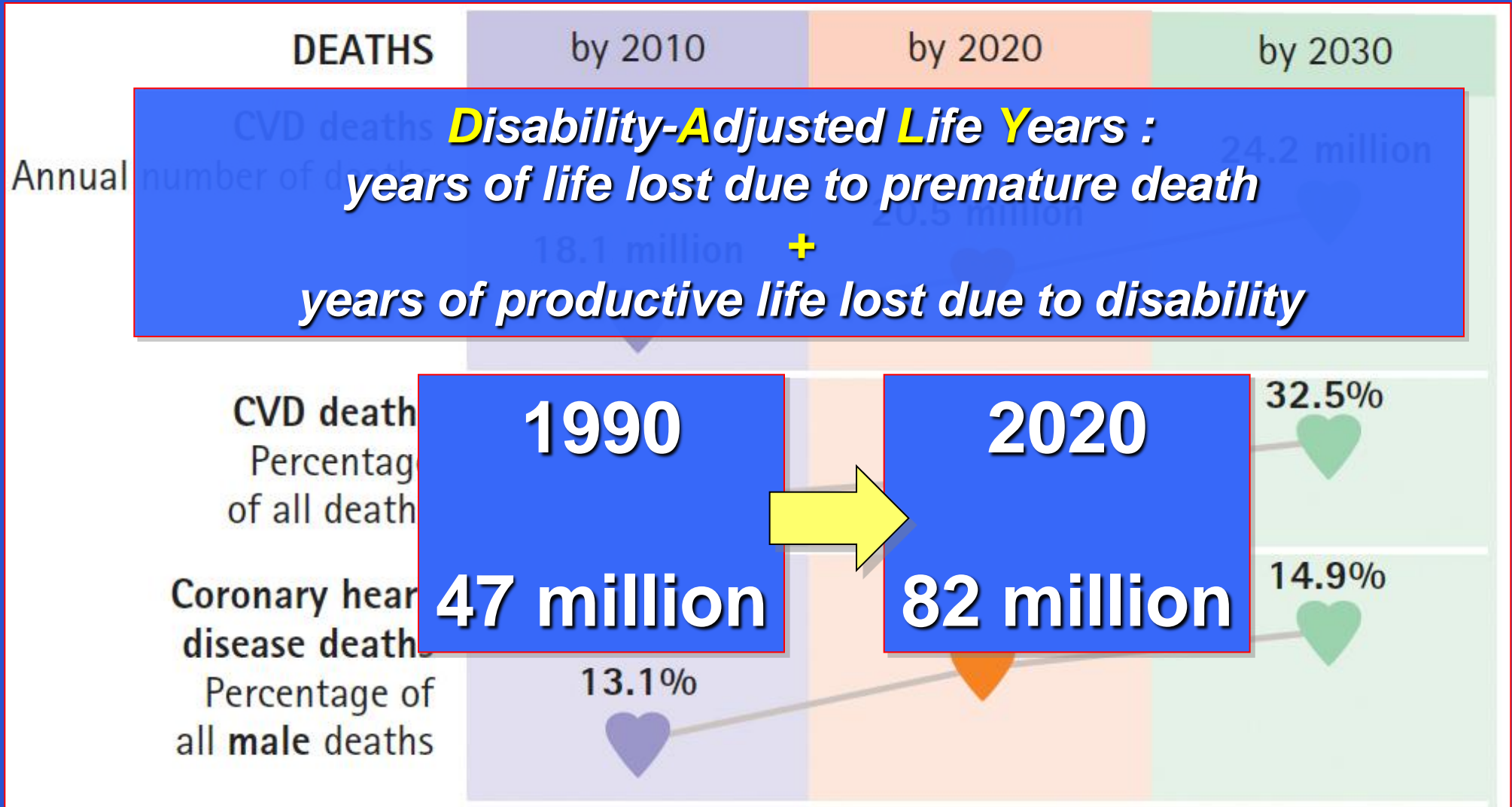


The Future of CV Disease



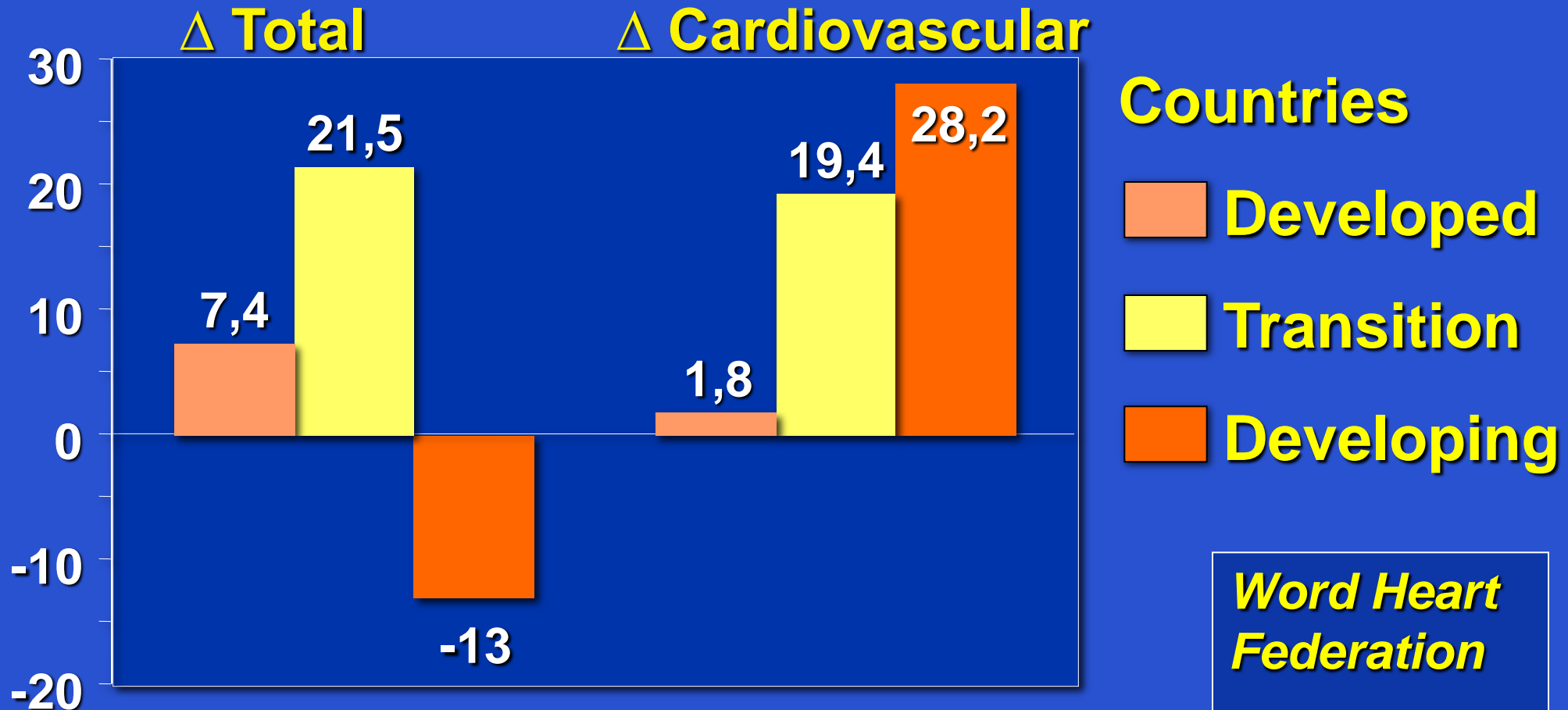
CAD Risk Factors & Prevention

The Future of CV Disease



The problem

MORTALITY / 100.000 Expected by year 2020



Countries

Developed

Transition

Developing

*Word Heart
Federation*

White Book

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Prevalence of CV Risk Factors in Spain 2006

Smoking	40 %
Minimal physical activity	70 % of adults
Obesity	65%, 16% in children
Hypertension	40 %
Diabetes	10 %
Cholesterol > 200	50%

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Who is responsible for Cardiovascular Disease Prevention

The Good Old Days

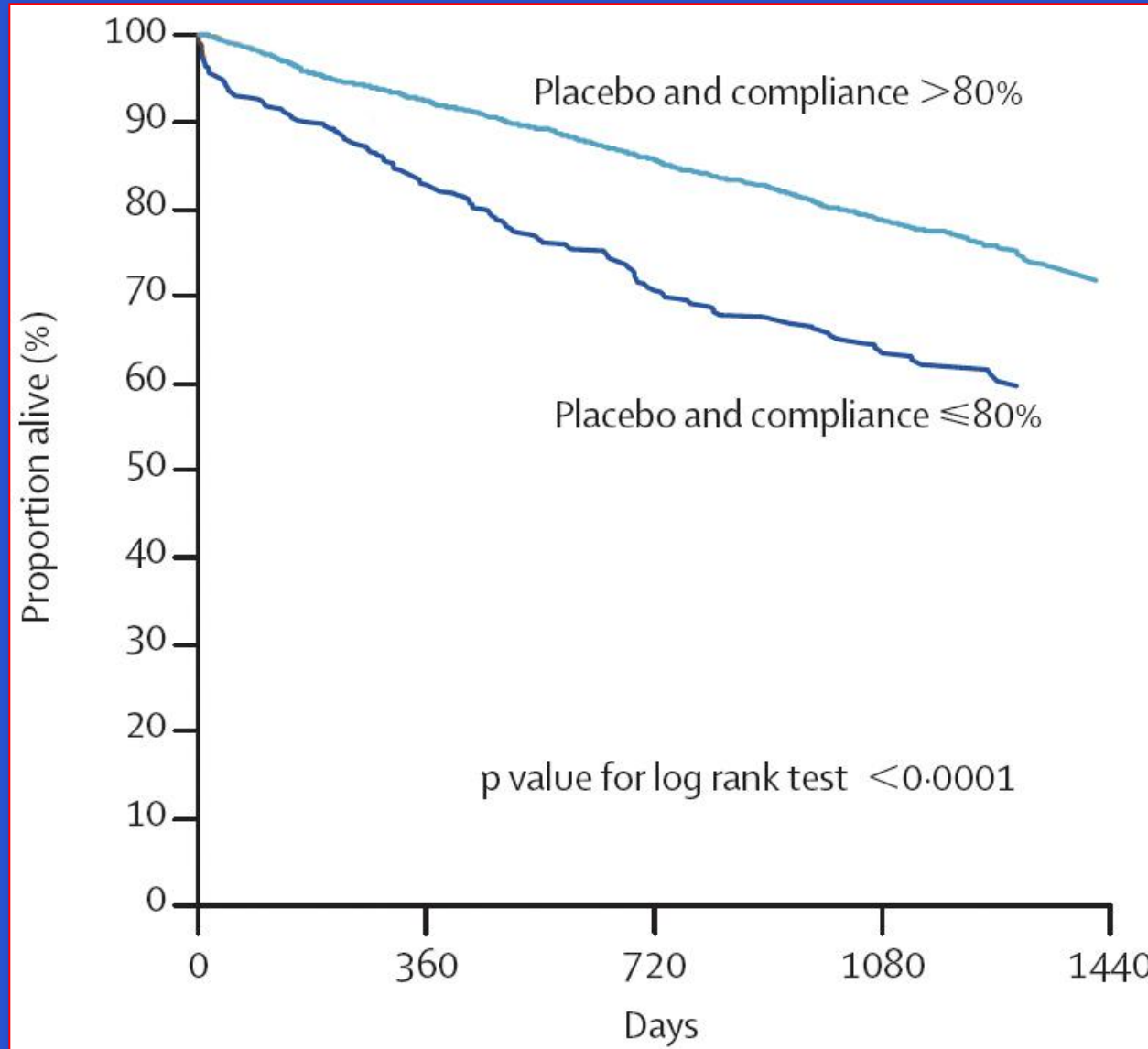
Cardiologists
Other physicians

Chronic Ischemic Heart disease

Active role of patient and physician

	Patient	Physician
Life stile	+++	+
Medications	++	++
PCI / CABG	-	+++++

Adherence to Treatment and Prognosis



CHARM

Lancet 2005;
366:2005-11



WORLD HEALTH ORGANIZATION

EXECUTIVE BOARD

113th Session

Provisional agenda item 3.7

EB113/44 Add.1

27 November 2003

Lifestyle to prevent ischemic heart disease

Integrated prevention of noncommunicable diseases

Draft global strategy on diet, physical activity and health

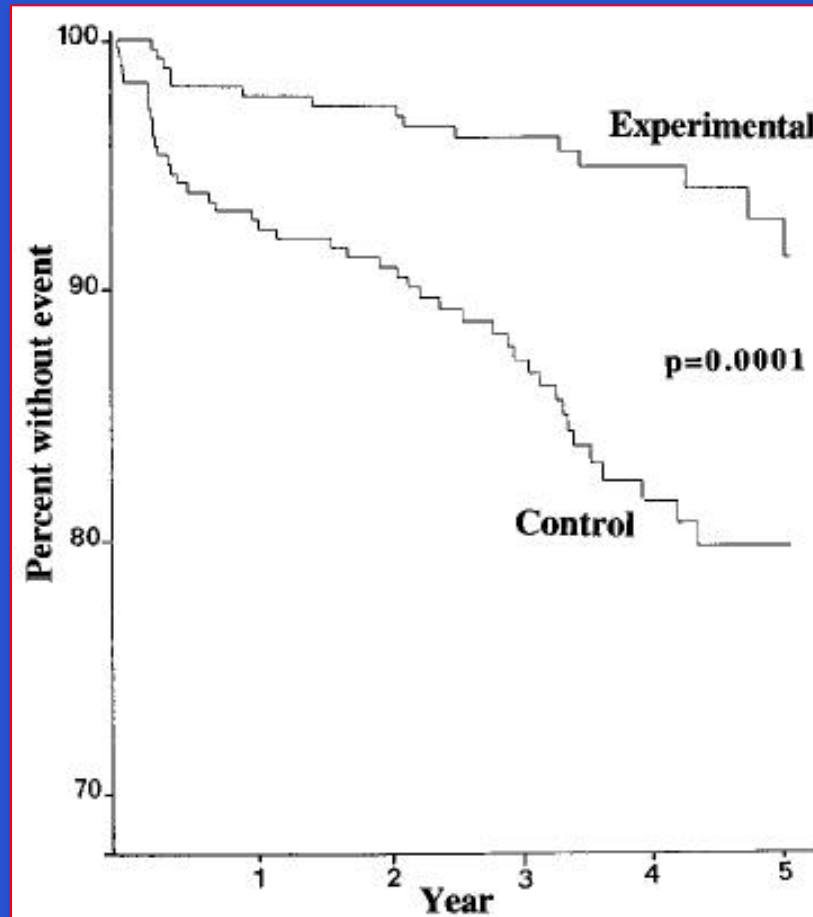
Mediterranean Diet. Lyon Diet Heart Study

423 MI
Start:
H. Discharge

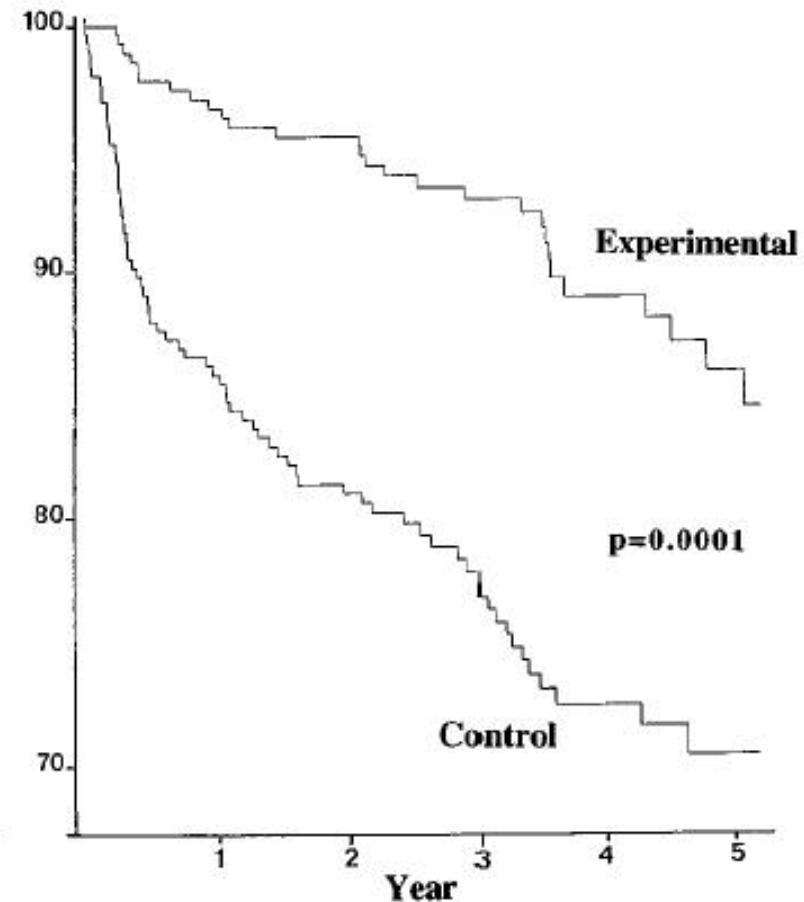
Control:
General
Counseling

Intervention:
Mediterranean
Diet

Survival w/out MI



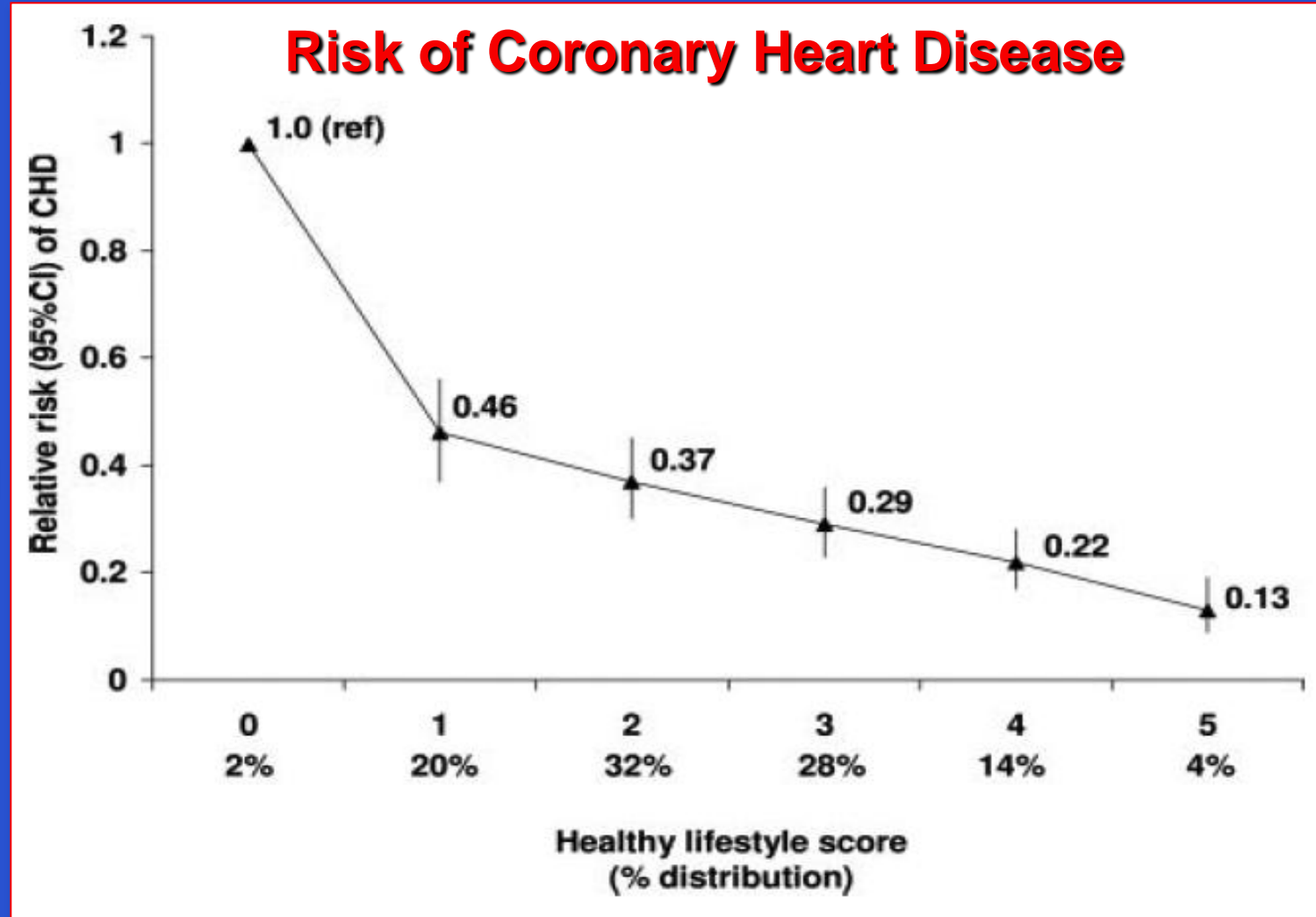
Survival without: MI, angina, stroke, heart failure, embolism



Healthy life stile in primary prevention

N=42.847 men, 40-75 y
No IHD in 1986
16 y f-up

- 1- No smoking
- 2- Body mass < 25
- 3- Exercise > 30m/d
- 4- Healthy diet
- 5- Alcohol 5-30 g/dl



CAD Risk Factors & Prevention

Who is responsible for Cardiovascular Disease Prevention

The Brave New World

Cardiologists
Other physicians

Educators

The Patient himself!

Family

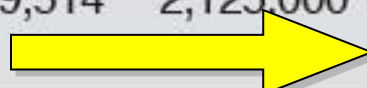
Health Authorities

Legislators

Coronary Heart Disease US

(ICD/9 410–414, 429.2) (ICD/10 I20–I25)

Population Group	Prevalence CHD 2002	Prevalence MI 2002	New and Recurrent Heart Attacks and Fatal CHD	New and Recurrent MI	Mortality CHD 2002	Mortality MI 2002	Hospital Discharges CHD 2002	Cost CHD 2005
Total population	13,000,000 (6.9%)	7,100,000 (3.5%)	1,200,000	865,000	494,382	179,514	2,125,000	\$142.1 billion



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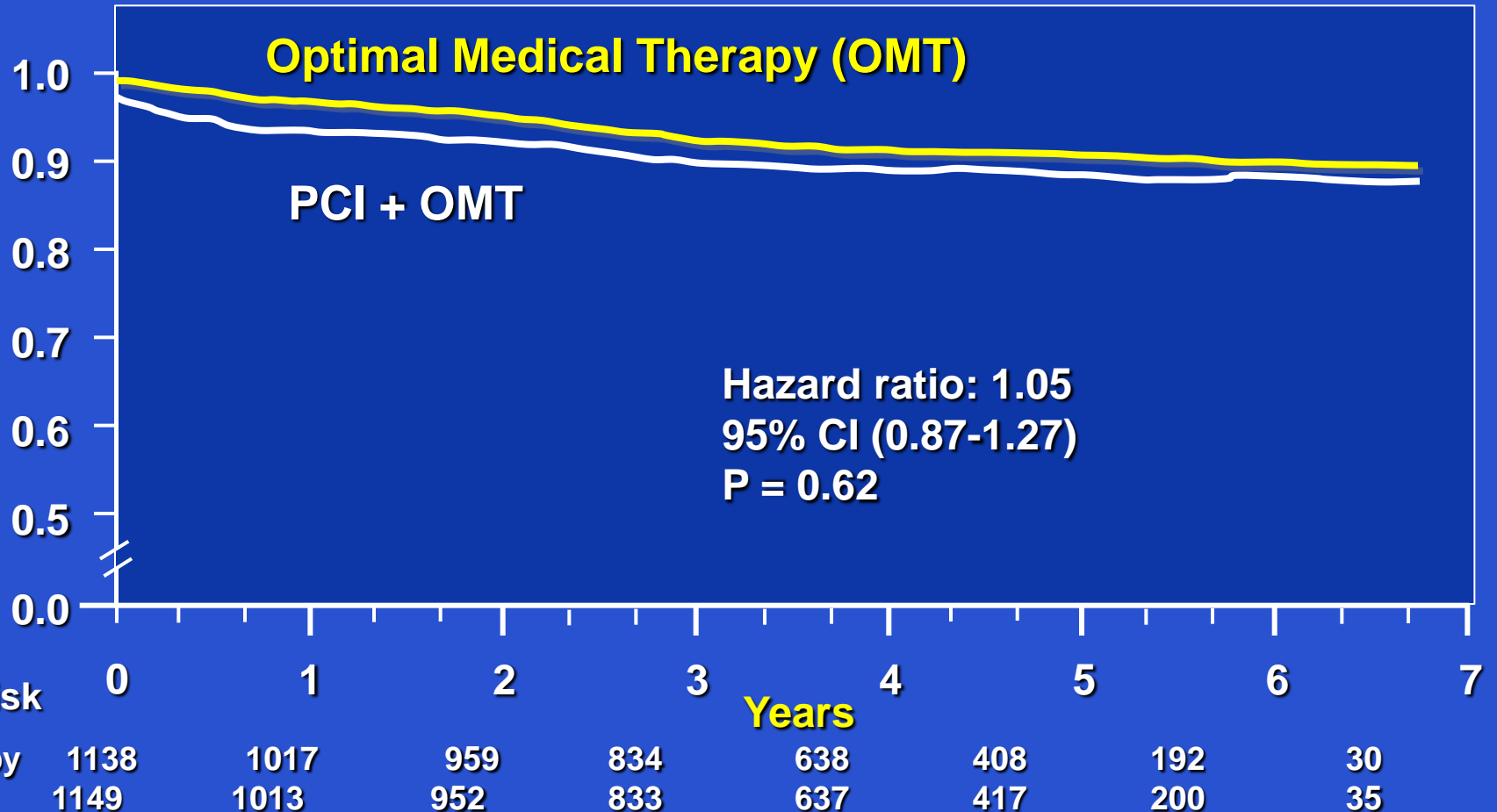
Coronary Artery Disease

or

Ischemic Heart Disease



Survival Free of Death from Any Cause and Myocardial Infarction





Optimal Medical Treatment

	PCI Group (N = 1149)	Medical-Therapy Group (N = 1138)
	Baseline	Baseline
Medication		
No. evaluated	1147	1138
ACE inhibitor — no. (%)	669 (58)	680 (60)
ARB — no. (%)	48 (4)	54 (5)
Statin — no. (%)	992 (86)	1014 (89)
Other antilipid — no. (%)	89 (8)	94 (8)
Aspirin — no. (%)	1097 (96)	1077 (95)
Beta-blocker — no. (%)	975 (85)	1008 (89)
Calcium-channel blocker — no. (%)§	459 (40)	488 (43)
Nitrates — no. (%)¶	714 (62)	825 (72)

Indications for Revascularisation in Stable Angina or Silent Ischaemia

* with documented ischaemia or FFR <0.80 for angiographic diameter stenoses 50-90%

	Subset of CAD by anatomy	Class	Level
For Prognosis	Left Main >50%*	I	A
	Any proximal LAD >50%*	I	A
	2, 3-vessel CAD with impaired LV function*	I	B
	Single remaining patent vessel >50% stenosis*	I	C
	Proven large area ischaemia (>10% LV)	I	B
	1-vessel w/out proximal LAD & w/out > 10% ischaemia	III	A
For Symptoms	Any stenosis >50% with limiting angina or angina equivalent, unresponsive to OMT	I	A
	Dyspnoea/CHF and > 10% LV ischaemia/viability supplied by >50% stenotic artery	IIa	B
	No limiting symptoms with OMT	III	C

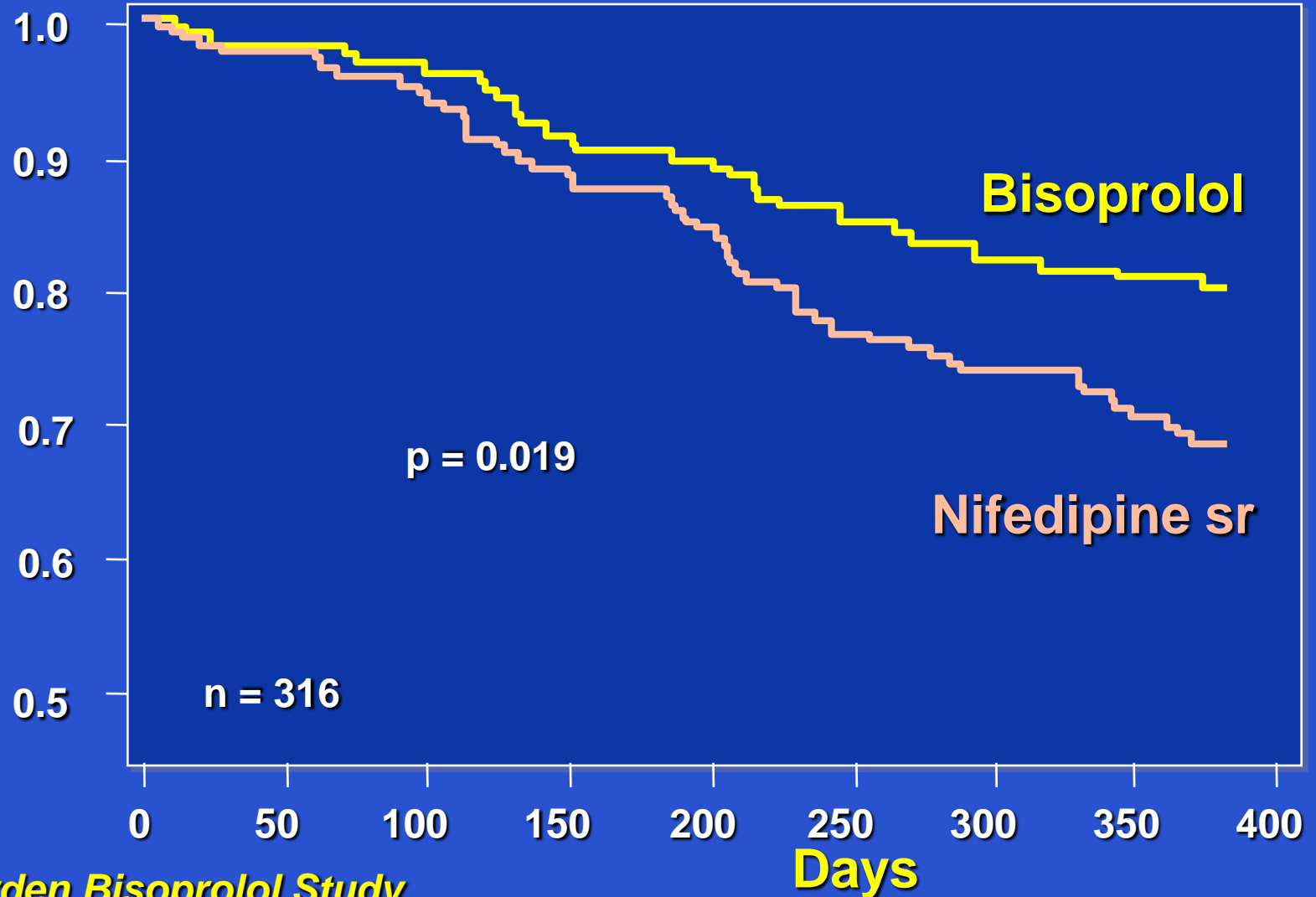
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Beta-blockers

	Class Recommend.	Level Evidence
Chronic Heart Failure	I	A
AMI (oral)	I	A
Post AMI	I	A
Chronic, stable ischaemia	I	A
Hypertension	I	A
Non cardiac surgery	I	A
Aortic dissection	I	C
Arrhythmias (SV / V)	I / IIa, b	A-C
Sudden death prevention	I / IIa, b	A-C

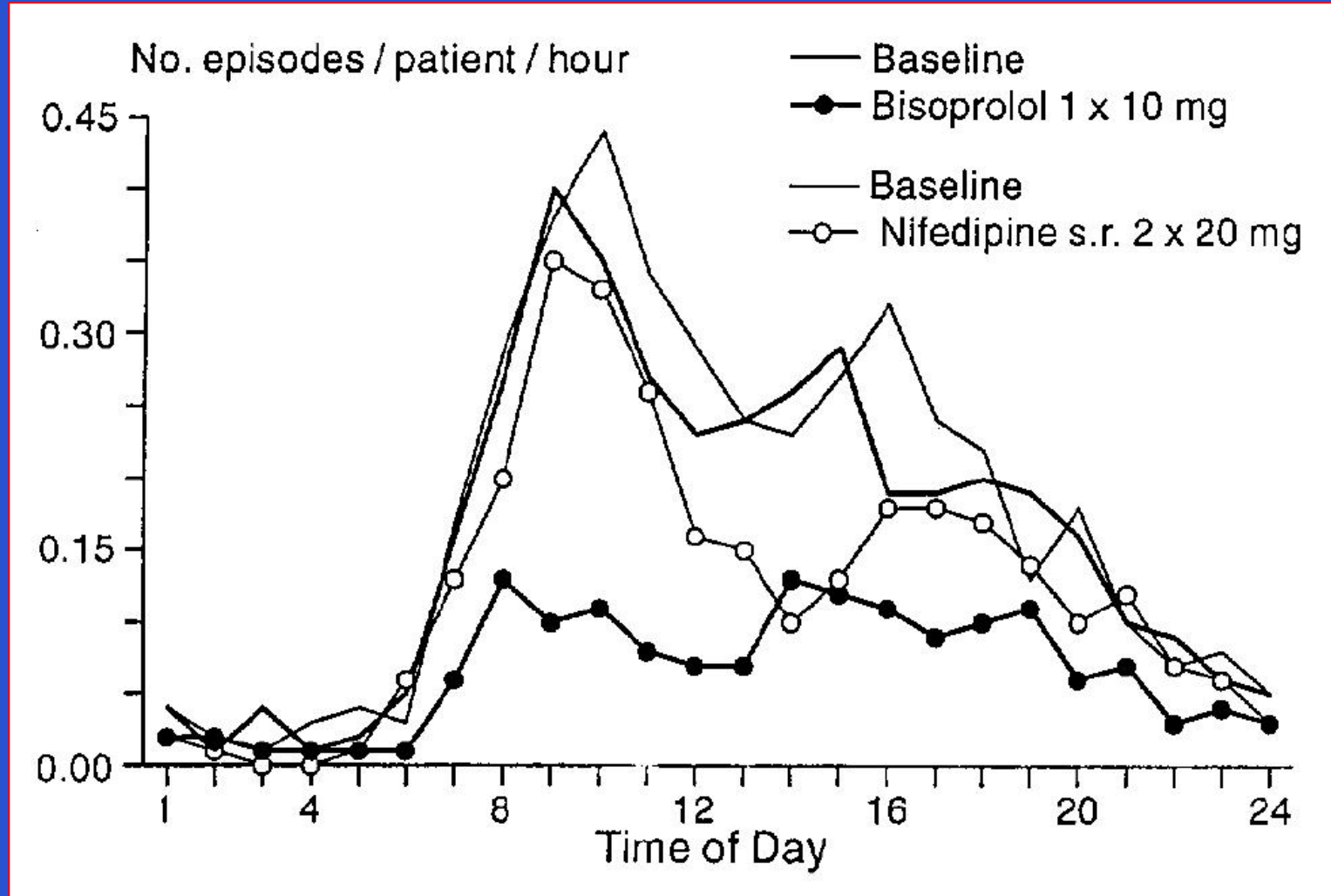
BB vs CC Blockers in Chronic Angina

Event Free Survival



Total Ischemic Burden Bisoprolol Study
JACC 1996;28:20

BB vs CC Blockers in Chronic Silent Ischemia



Treatments aimed at Symptom Relief

Betablockers, 1st line treatment

Insuficient control of angina / ischaemia

Contraindication or intolerant

Add

Other option

Ca antagonists:

Amlodipine: Low heart rate, HT

Diltiacem, verapamil: Tach, HT

Ivabradine:



Heart rate > 60 b/m

Nitrate / Nicorandil:



General option

Ranolazine:



General option

ESC Guide 2006

Primary prevention

Secondary Prevention

Lifestyle (exercise, no Smoking, Healthy diet)

Treatment of risk factors (hypertension, high cholesterol, others)

ESC, AHA, ACC, WHF, WHO

Primary prevention

Secondary Prevention

Lifestyle (exercise, no Smoking, Healthy diet)

Treatment of risk factors (hypertension, high cholesterol, others)

Drugs in selected patients

Aspirin in all

Statins in all

Betablockers if previous MI / HF

ESC, AHA, ACC, WHF, WHO

Conclusions

1- Take care of yourself

2- Take action (yes, you)

3- Follow (consider) Guidelines