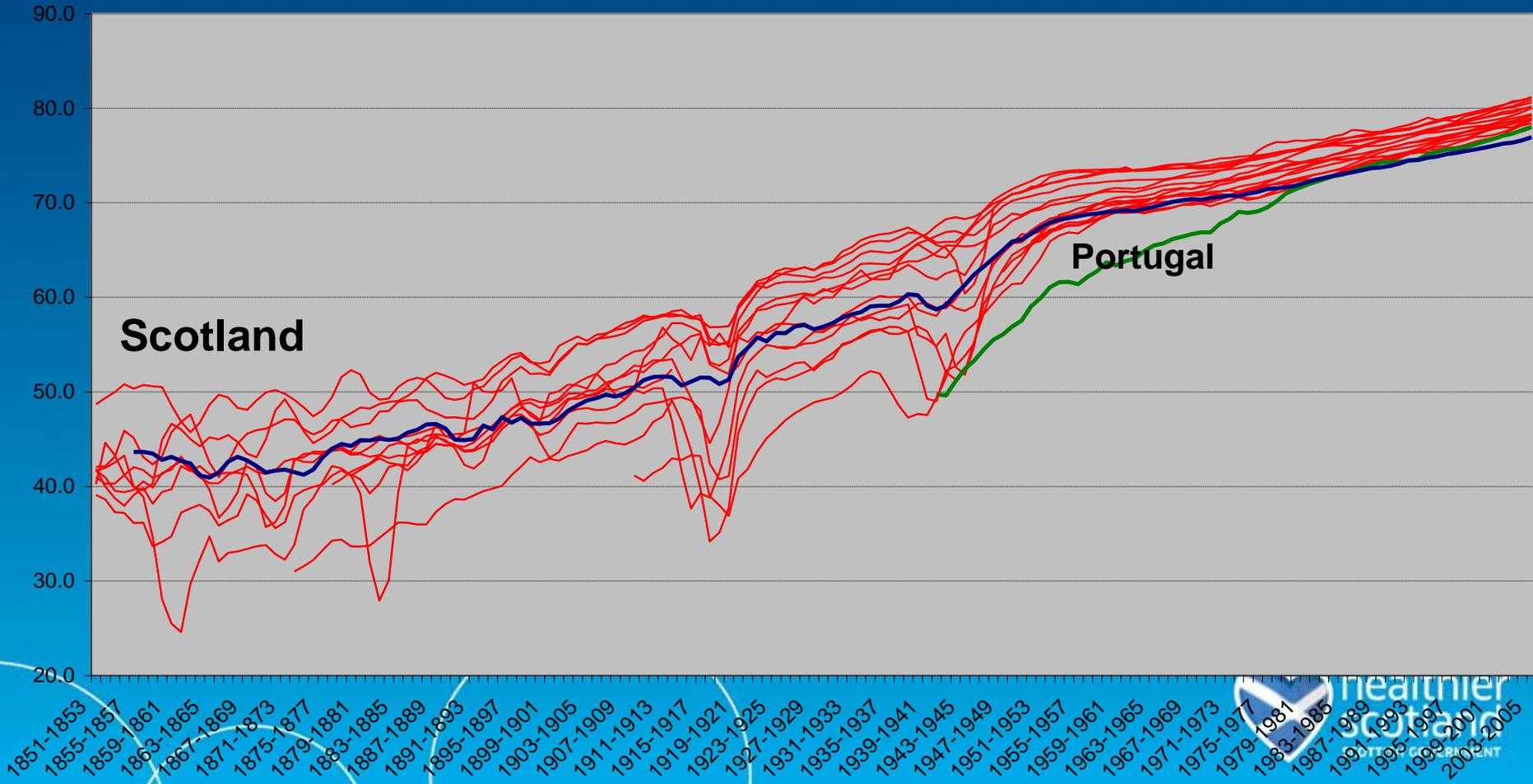

Managing the social determinants of health

Easier said than done?

Life expectancy trends

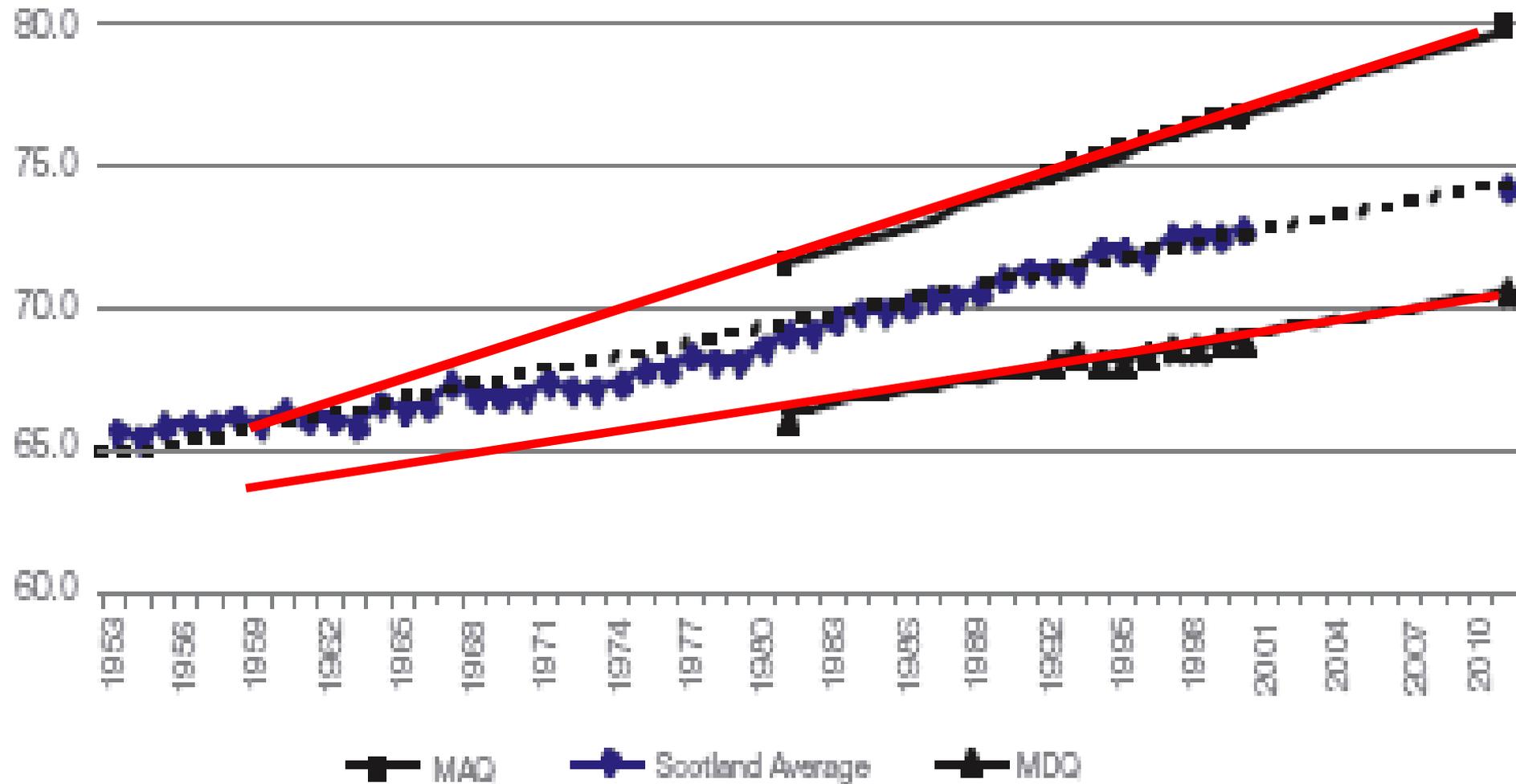
Life expectancy: Scotland & other Western European Countries, 1851-2005
Source: Human Mortality Database



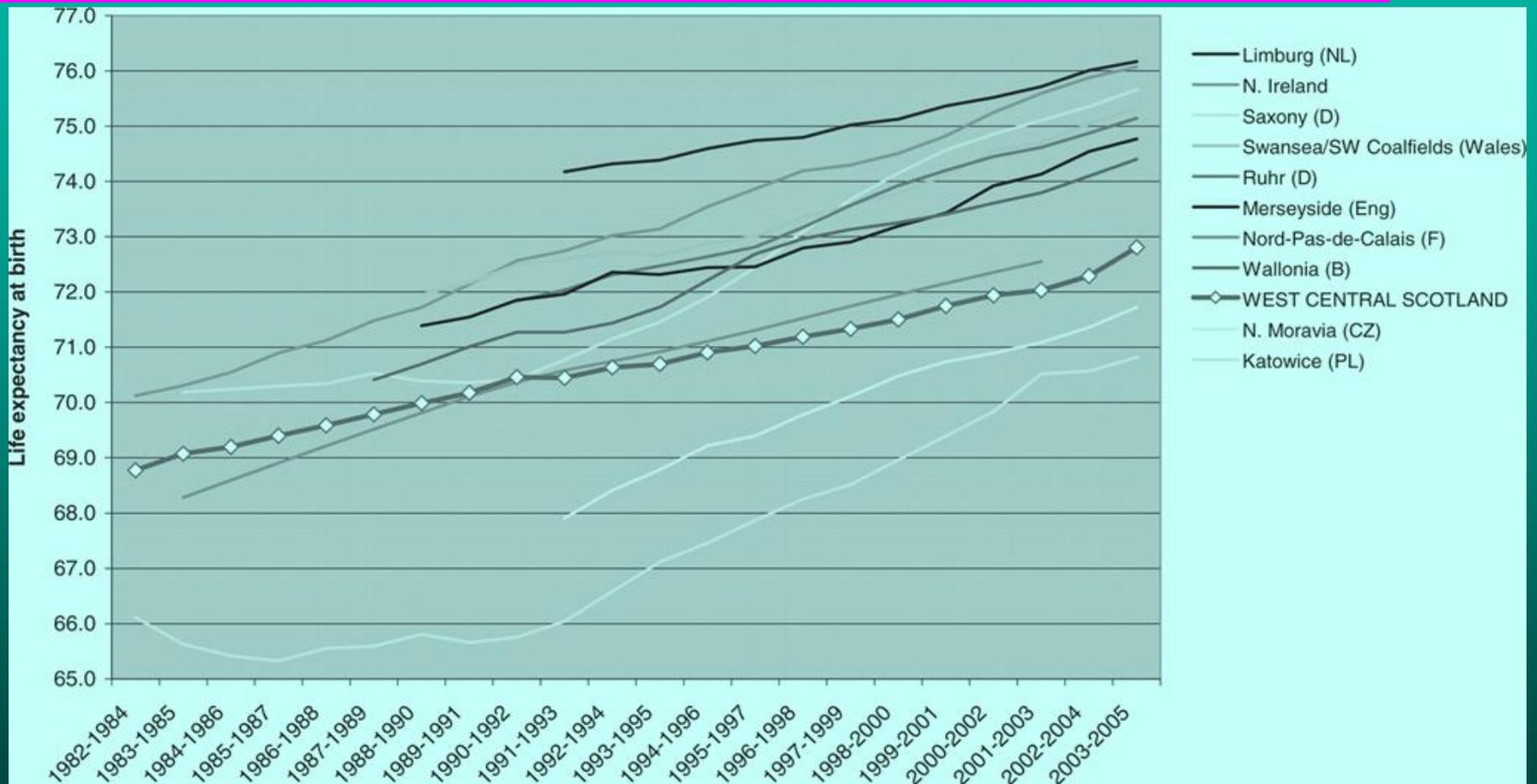
Workers in the 1950s



Trends in male life expectancy: Scotland

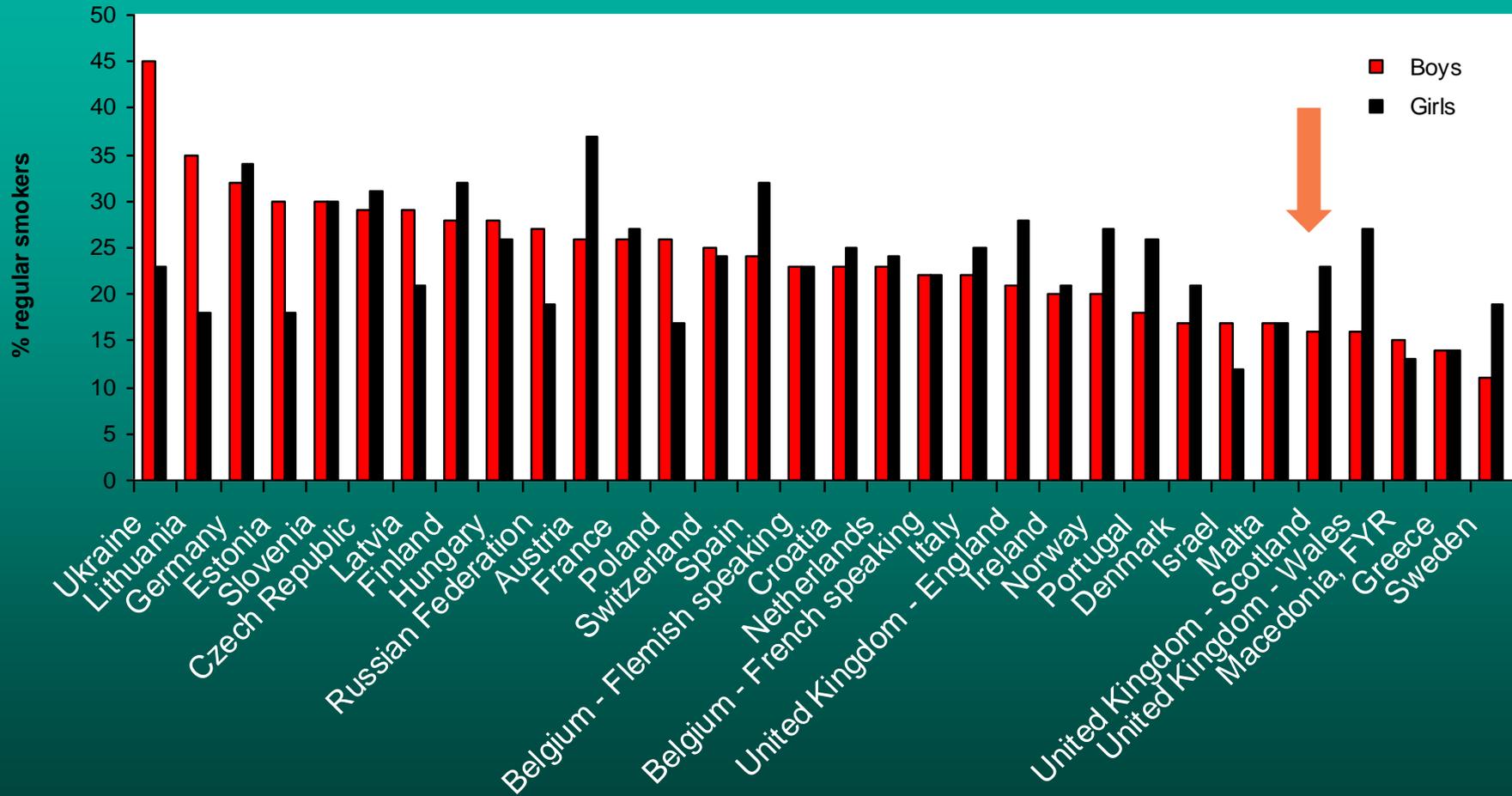


Post industrial regions of Europe

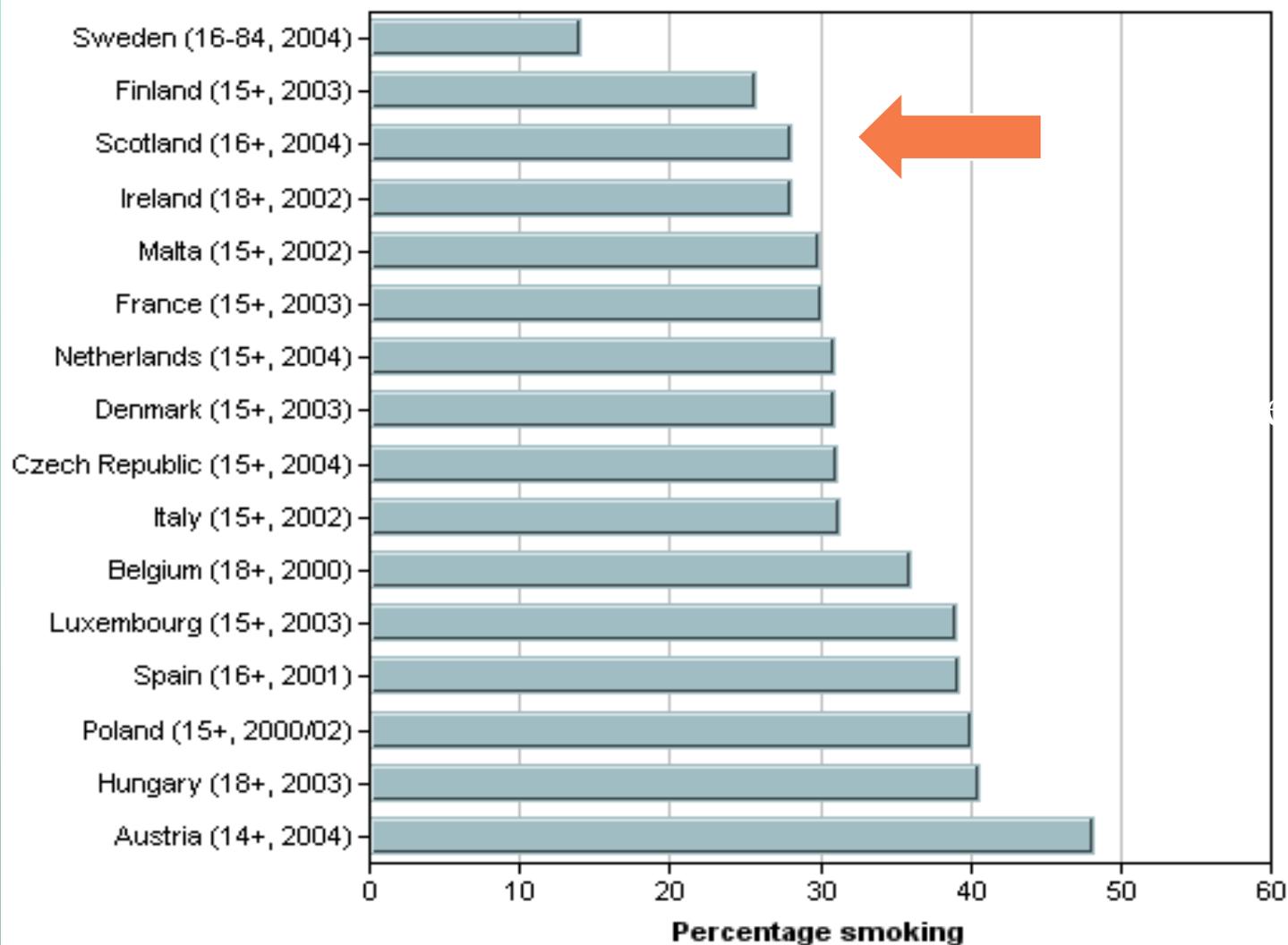


Walsh, D. et al. Eur J Public Health 2010 20:58-64; doi:10.1093/eurpub/ckp063

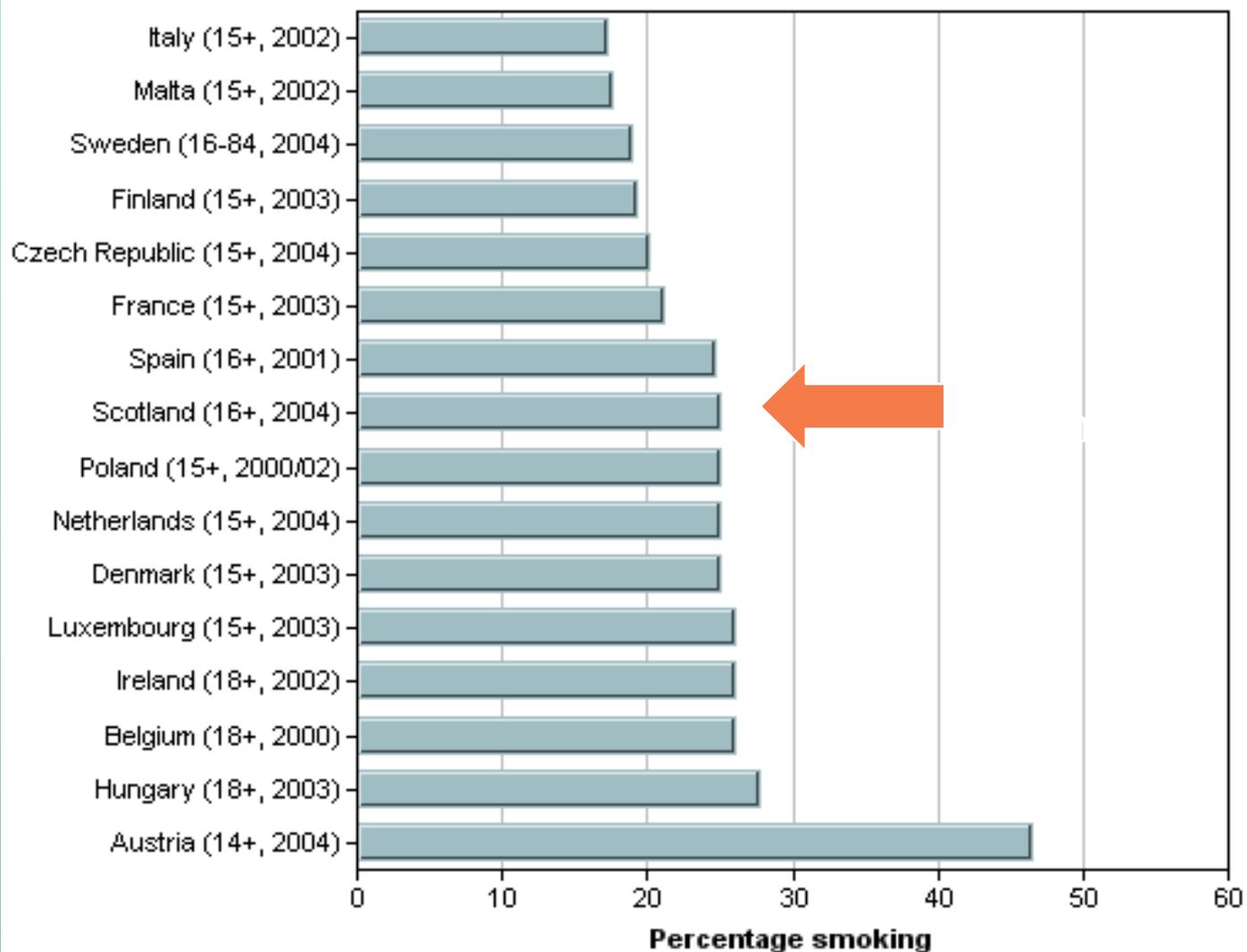
Prevalence of smoking by country, in 15 year olds by sex, 2000/01, Europe



Smoking prevalence - Males

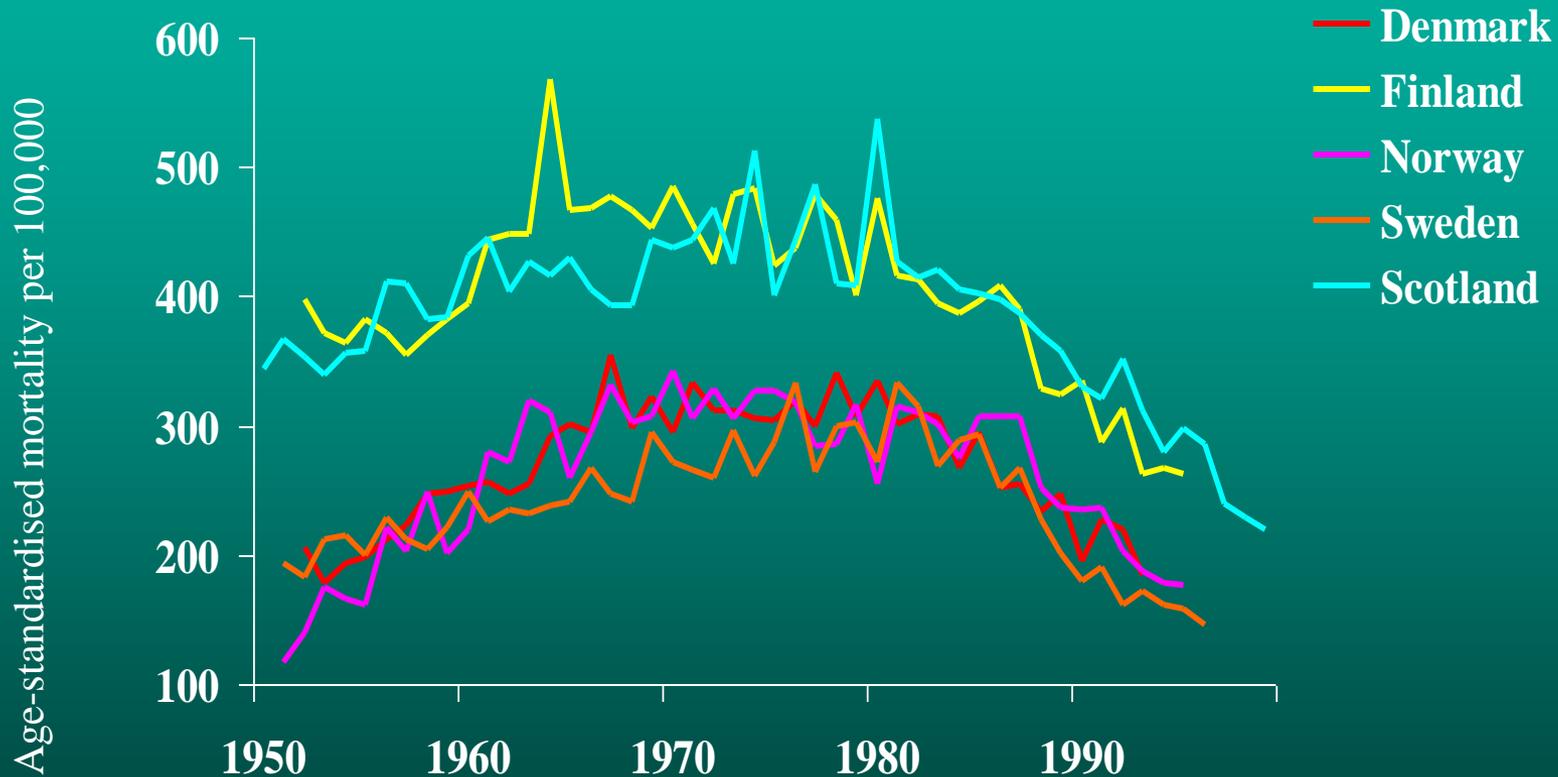


Smoking prevalence - Females



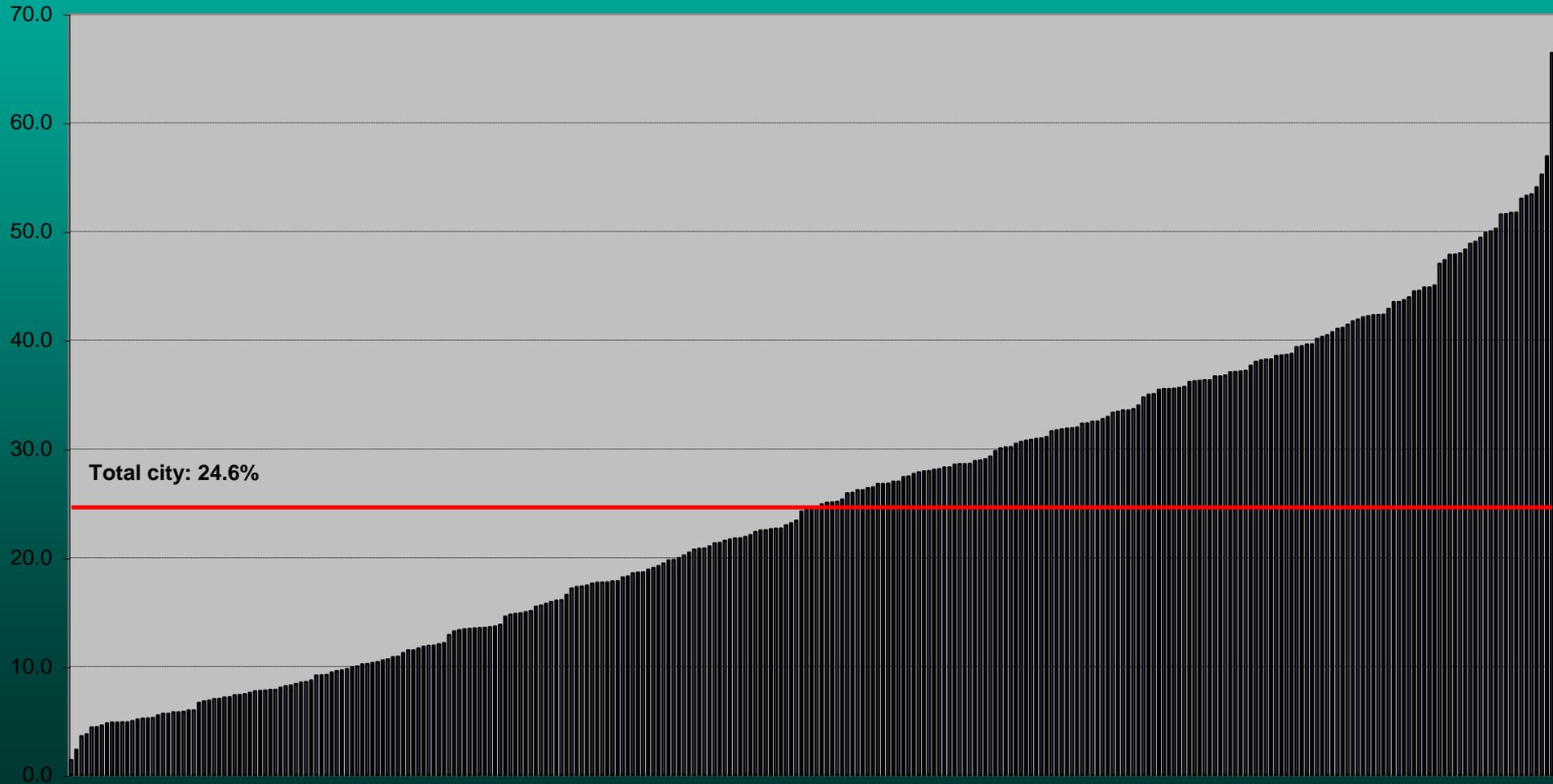
Coronary heart disease mortality

Men aged 15-74 years



Income deprivation - Liverpool

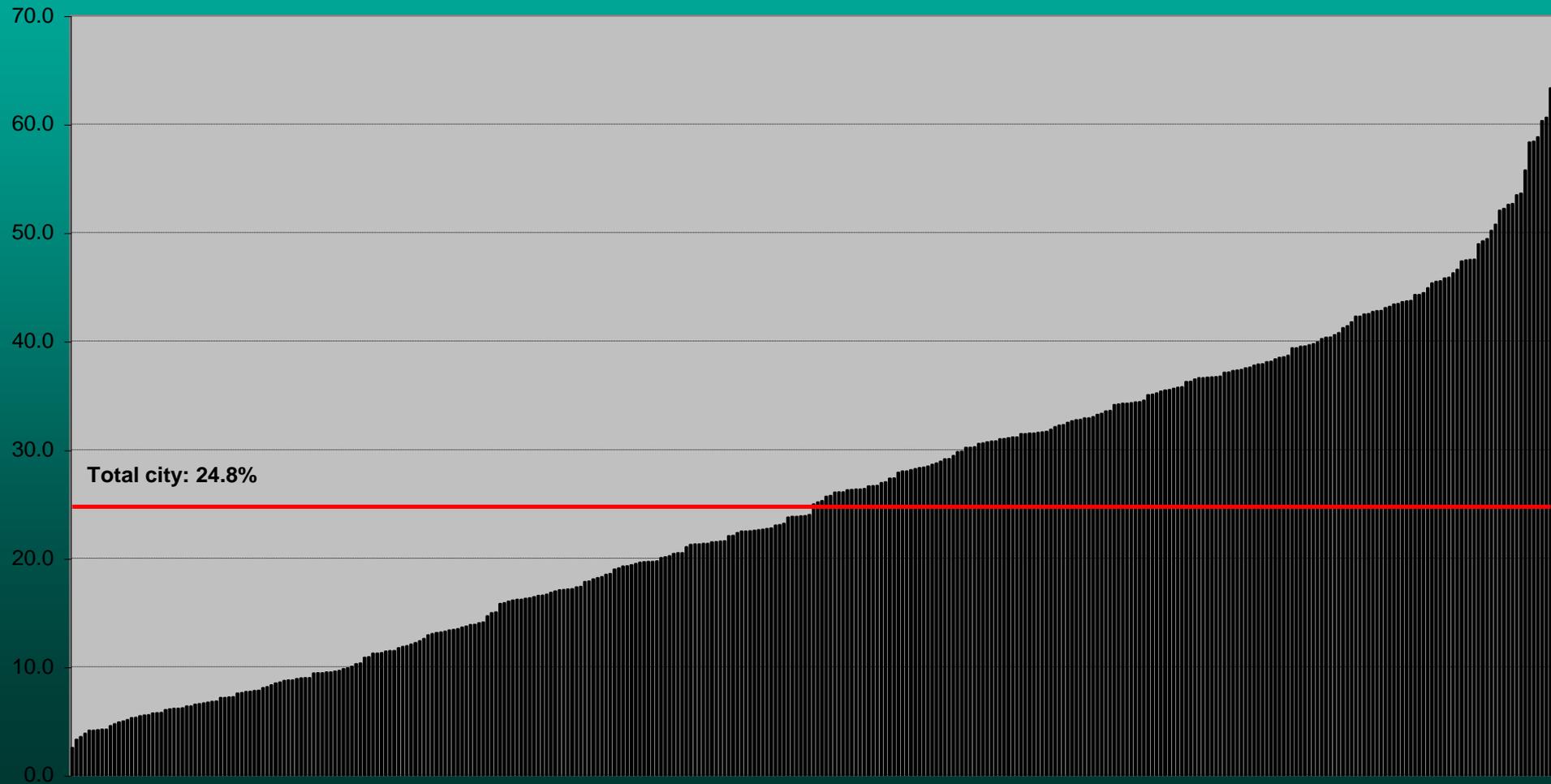
Liverpool LSOAs: income deprivation distribution
Source: DWP



Income deprivation - Glasgow

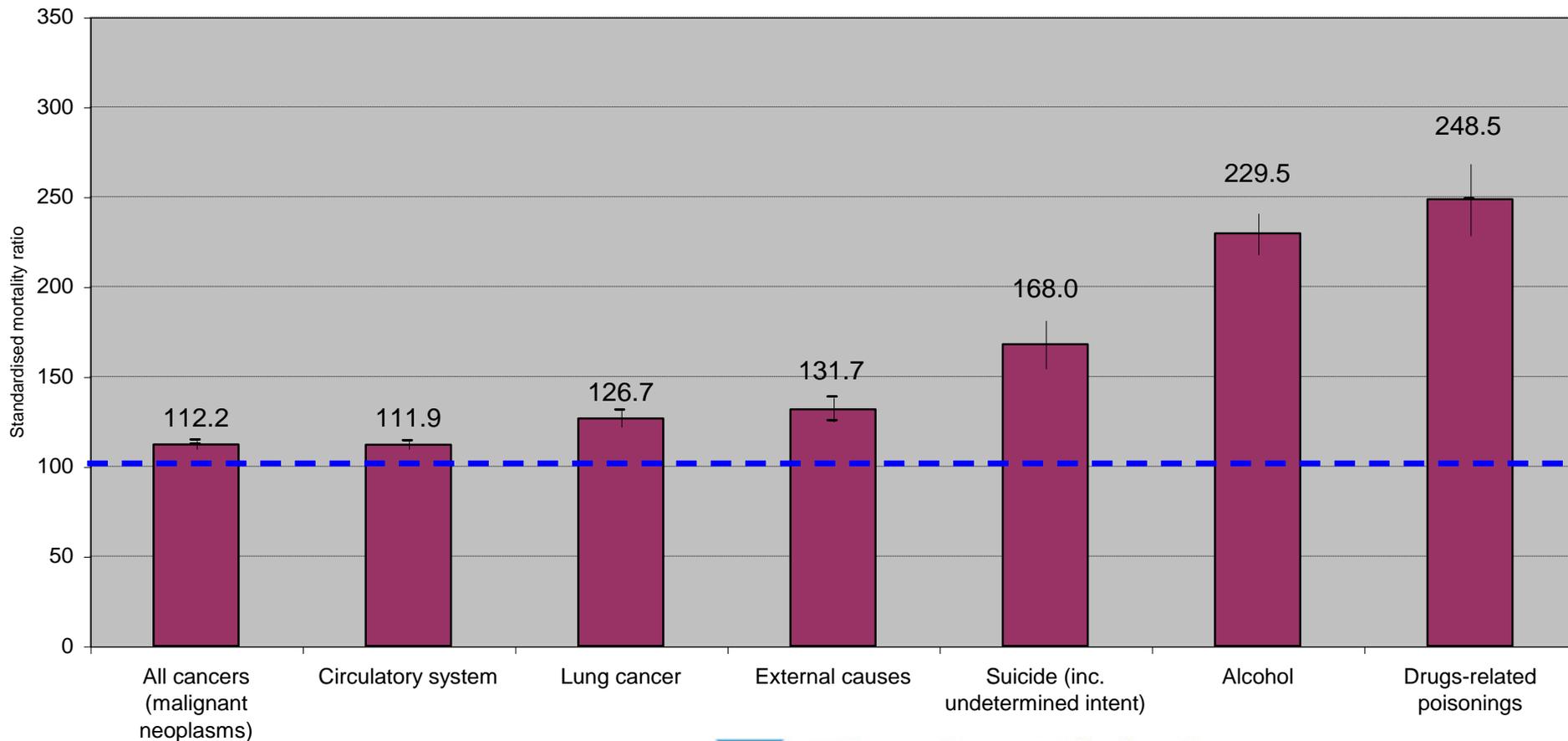
Glasgow merged DZs: income deprivation distribution

Source: GCPH, based on SIMD/DWP data



Standardised mortality rates by cause, all ages: Glasgow relative to Liverpool & Manchester

All ages, both sexes: cause-specific standardised mortality ratios 2003-07, Glasgow relative to Liverpool & Manchester, standardised by age, sex and deprivation decile
Calculated from various sources



Health is a state
of complete physical,
mental, and social
well-being and
not merely the
absence of disease
or infirmity.



Aaron Antonovsky 1923-1994



Sense of coherence....

“.....expresses the extent to which one has a feeling of confidence that the stimuli deriving from one's internal and external environments in the course of living are **structured, predictable and explicable**, that one has the **internal resources** to meet the demands posed by these stimuli and, finally, that these demands are seen as **challenges**, worthy of investment and engagement.”

Salutogenesis....

- ◆ Highlights factors which create and support human health rather than those which cause disease
- ◆ It focuses on resources and capacities which impact positively on health and aims to explain why, in adverse circumstances, some stay healthy and others don't.

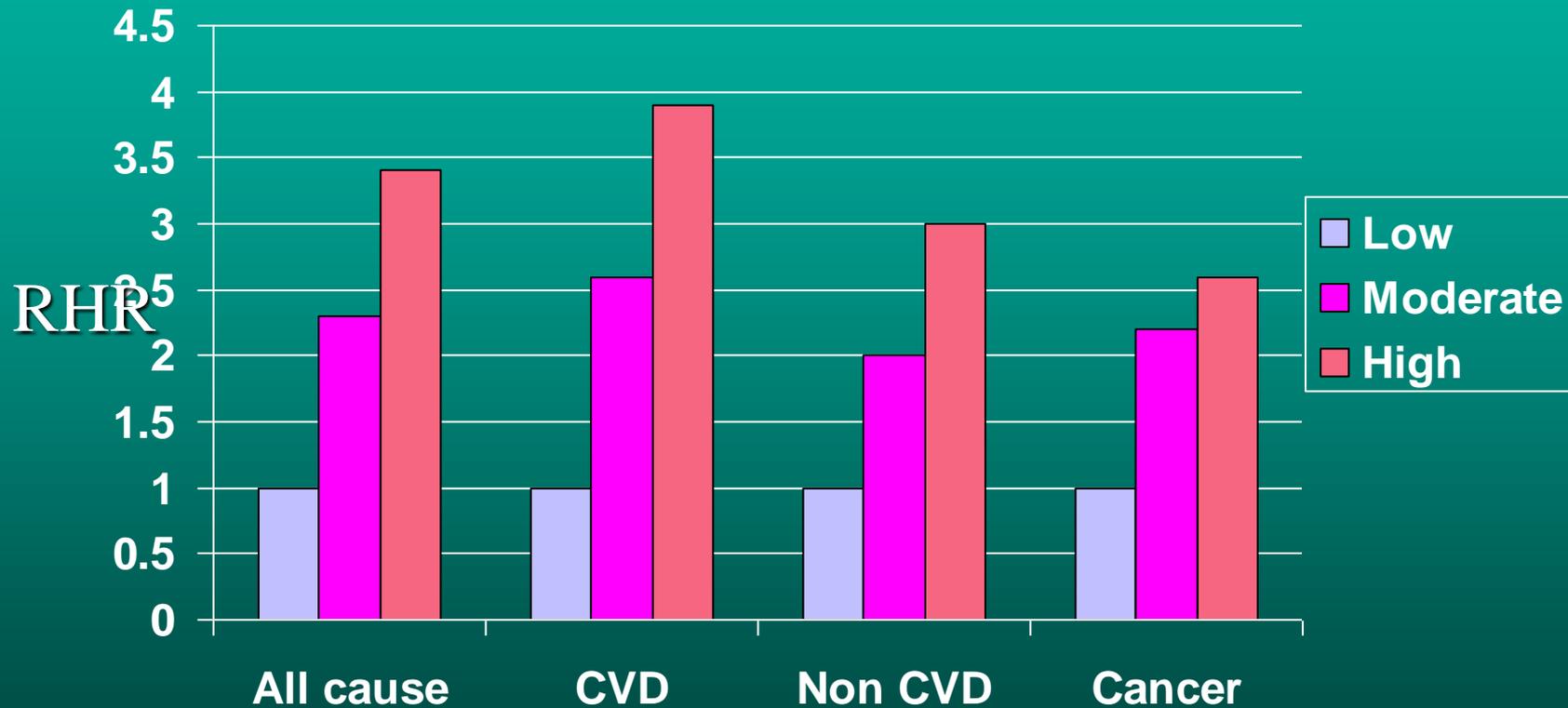
For the creation of health....

...the social and physical environment must be:

- ◆ Comprehensible
- ◆ Manageable
- ◆ Meaningful
- ◆or the individual would experience chronic stress

Risk of death

- by level of hopelessness

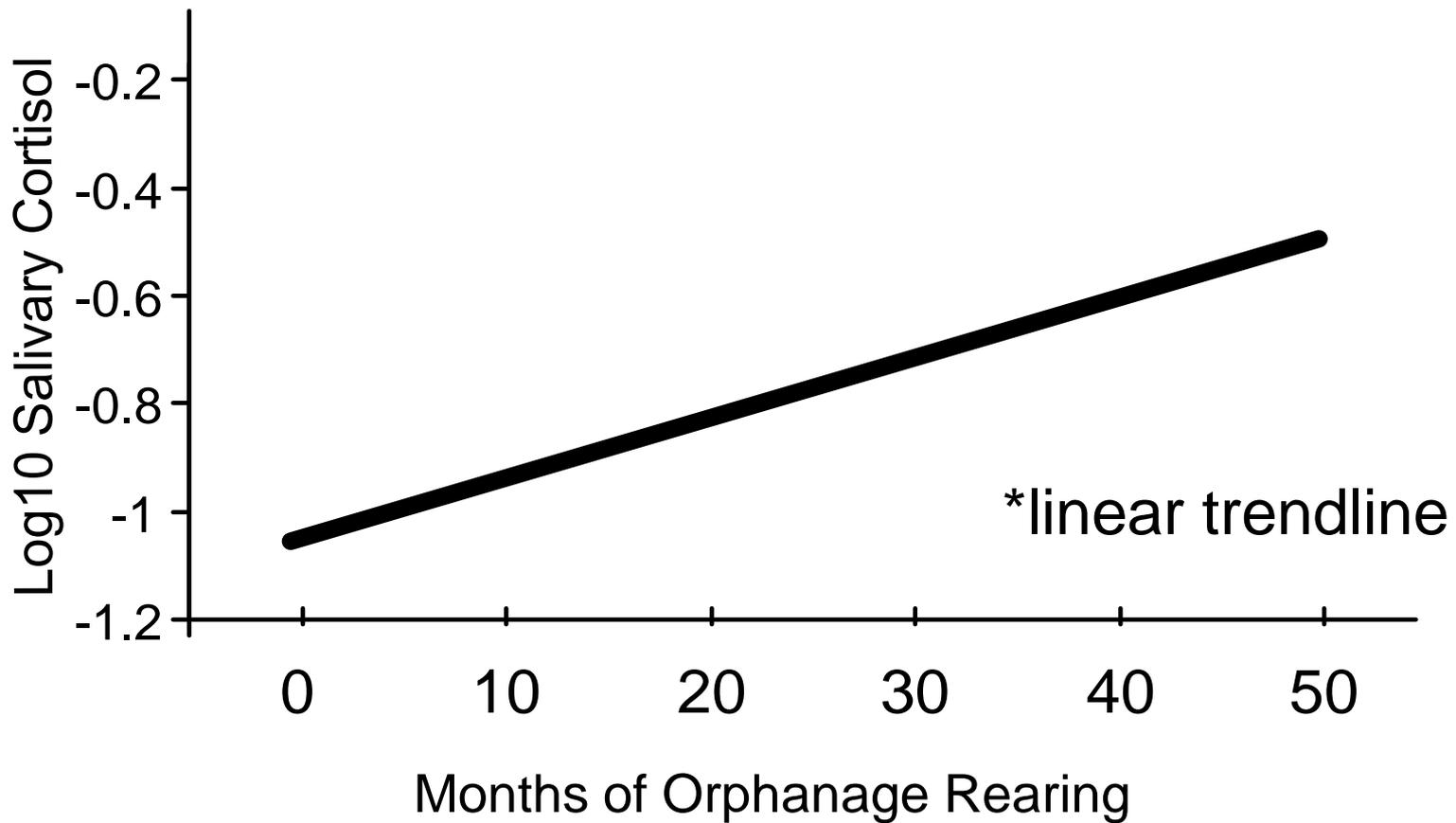


Everson et al 1996

Carotid artery thickening

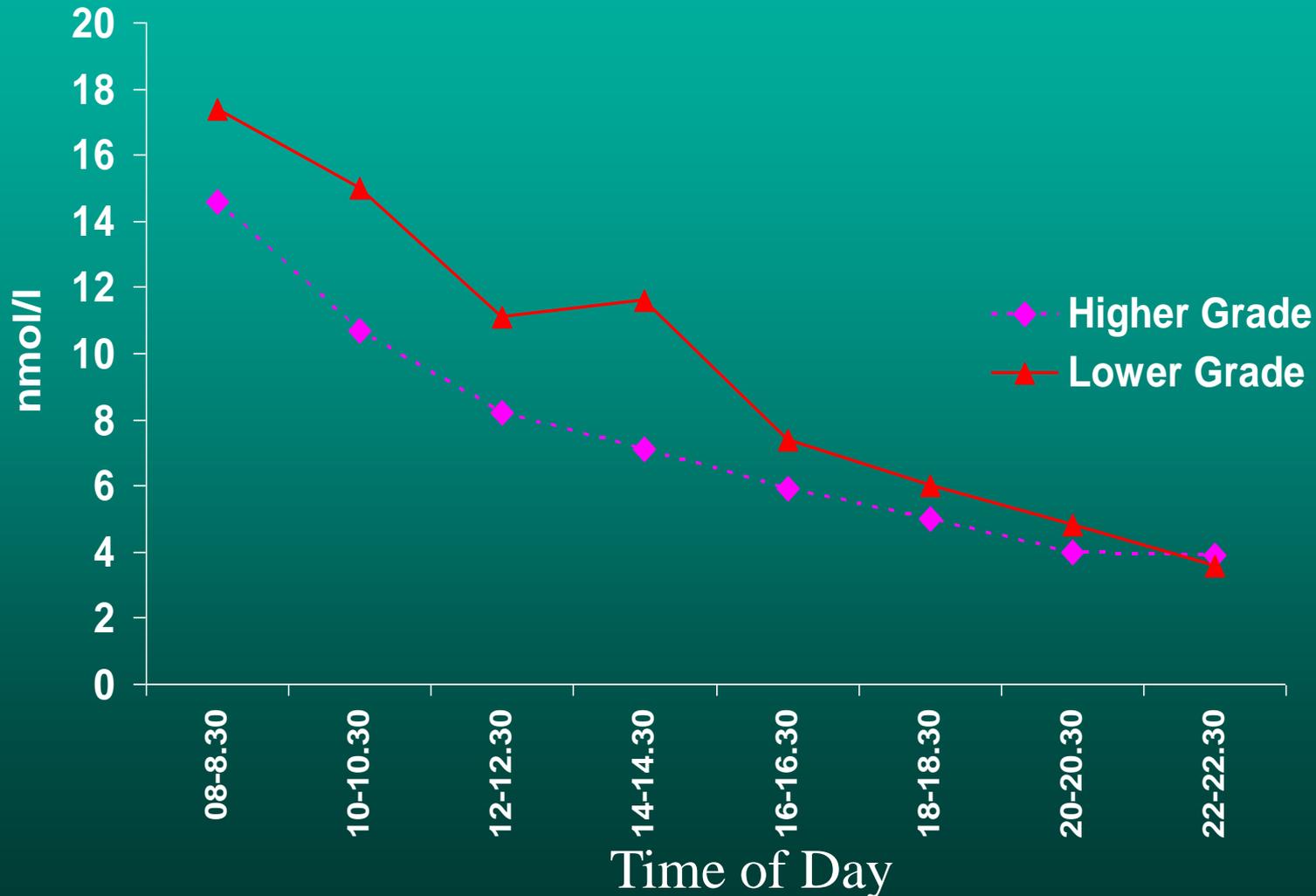


Evening Cortisol Levels Increase with Months of Orphanage Rearing *

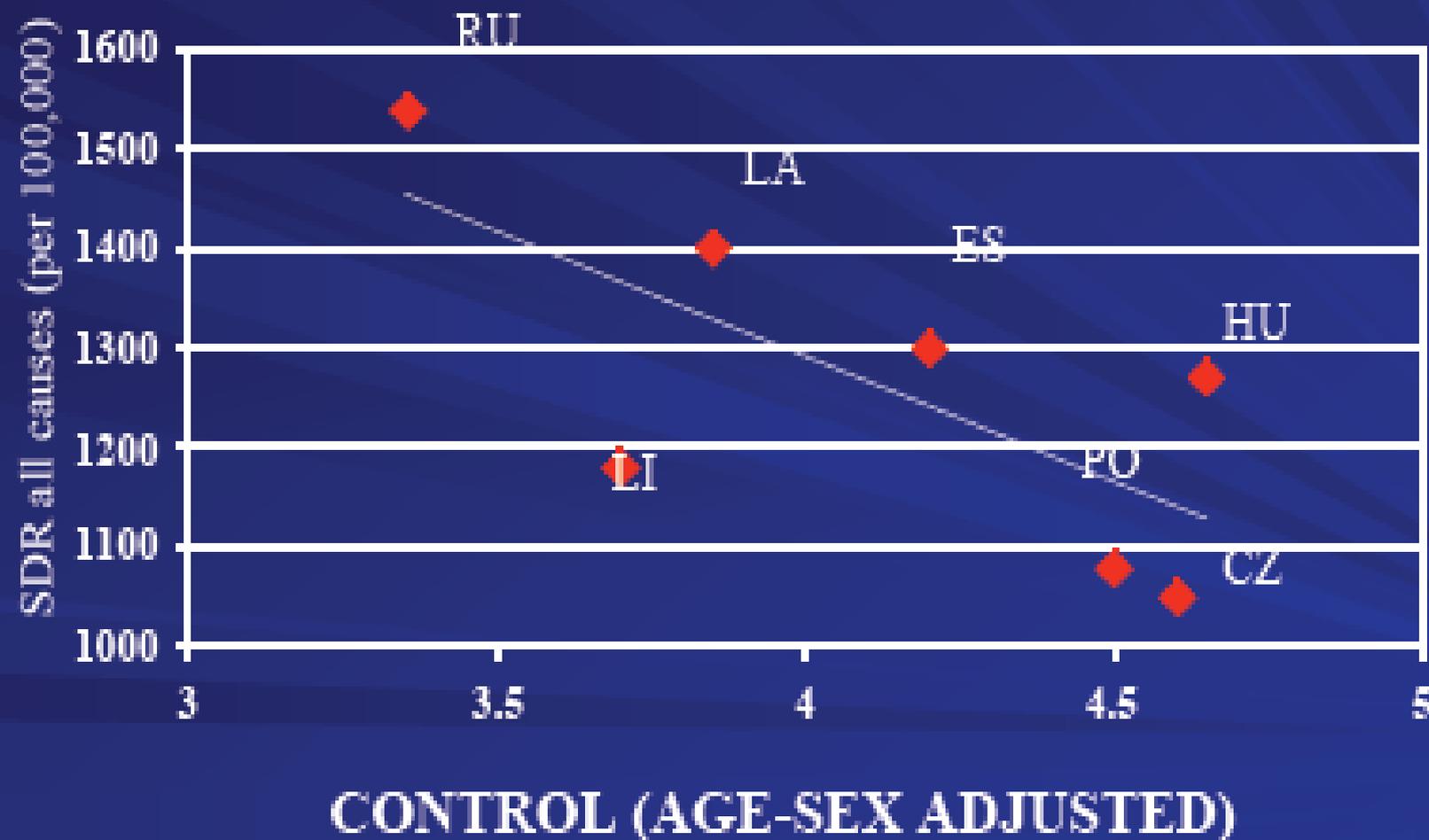


STRESS AND GRADE OF EMPLOYMENT: MEN

Salivary Cortisol



PERCEIVED CONTROL IN NATIONAL SAMPLES AND ALL CAUSE MORTALITY



Pikhart, Bobak et al 2000

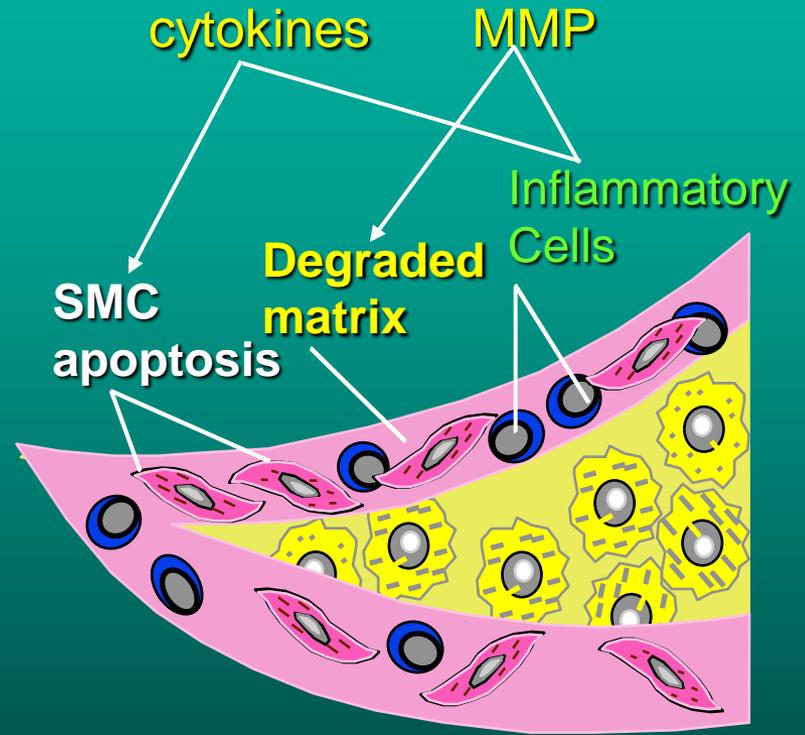
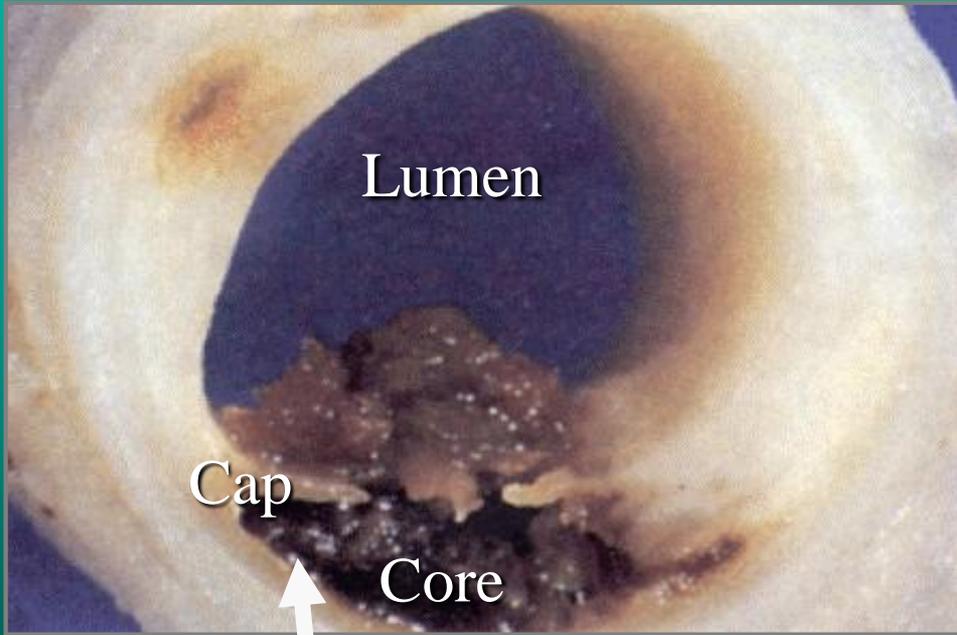
Persistence hunting



Environmental determinants of inflammatory status

	Depcat	% smokers	CRP (median) mg/dl	
			Never-smokers	Smokers
affluent	1	36.8	0.71	1.42
	2	35.9	1.00	2.34
	3	39.1	1.11	2.25
	4	44.1	1.21	2.44
	5	46.6	1.13	2.53
	6	49.3	1.25	3.07
deprived	7	55.5	1.48	3.29

Inflammation in plaques



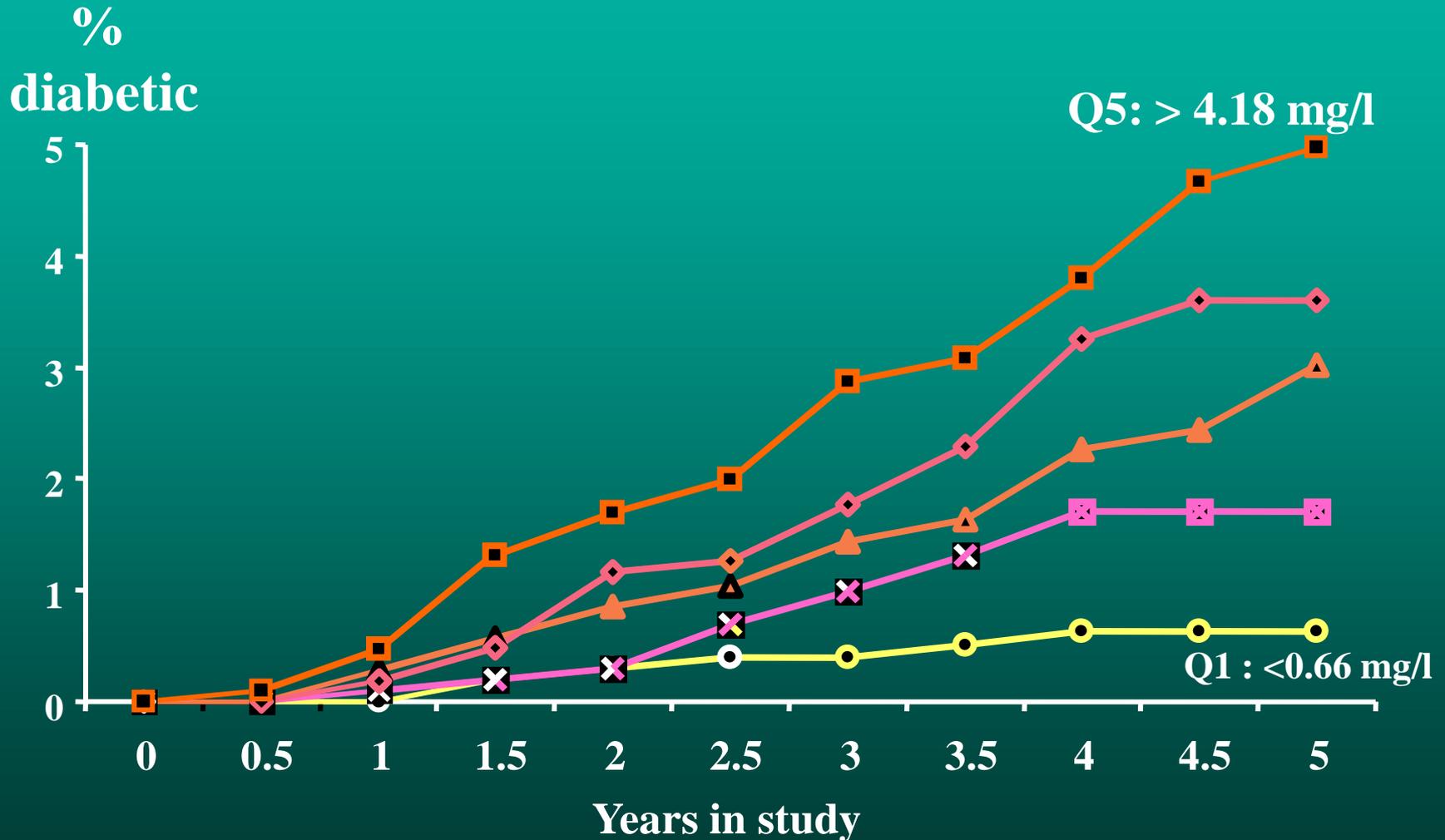
Inflammatory cells



MMPs, IL-6,
IL-15, IL-18, CRP

Unstable Thin
Fibrous Cap

CRP and cumulative risk of type 2 diabetes



Adipocyte programming

insulin resistance, inflammation and ALP

skeletal muscle

Insulin resistance

NEFAs

triglyceride↑

Low HDL
small LDL

Atherogenic
Lipoprotein
Phenotype

liver

CRP↑
SAA

Pro-inflammatory
state

Adipose
stores

IL-6/IL-6sR

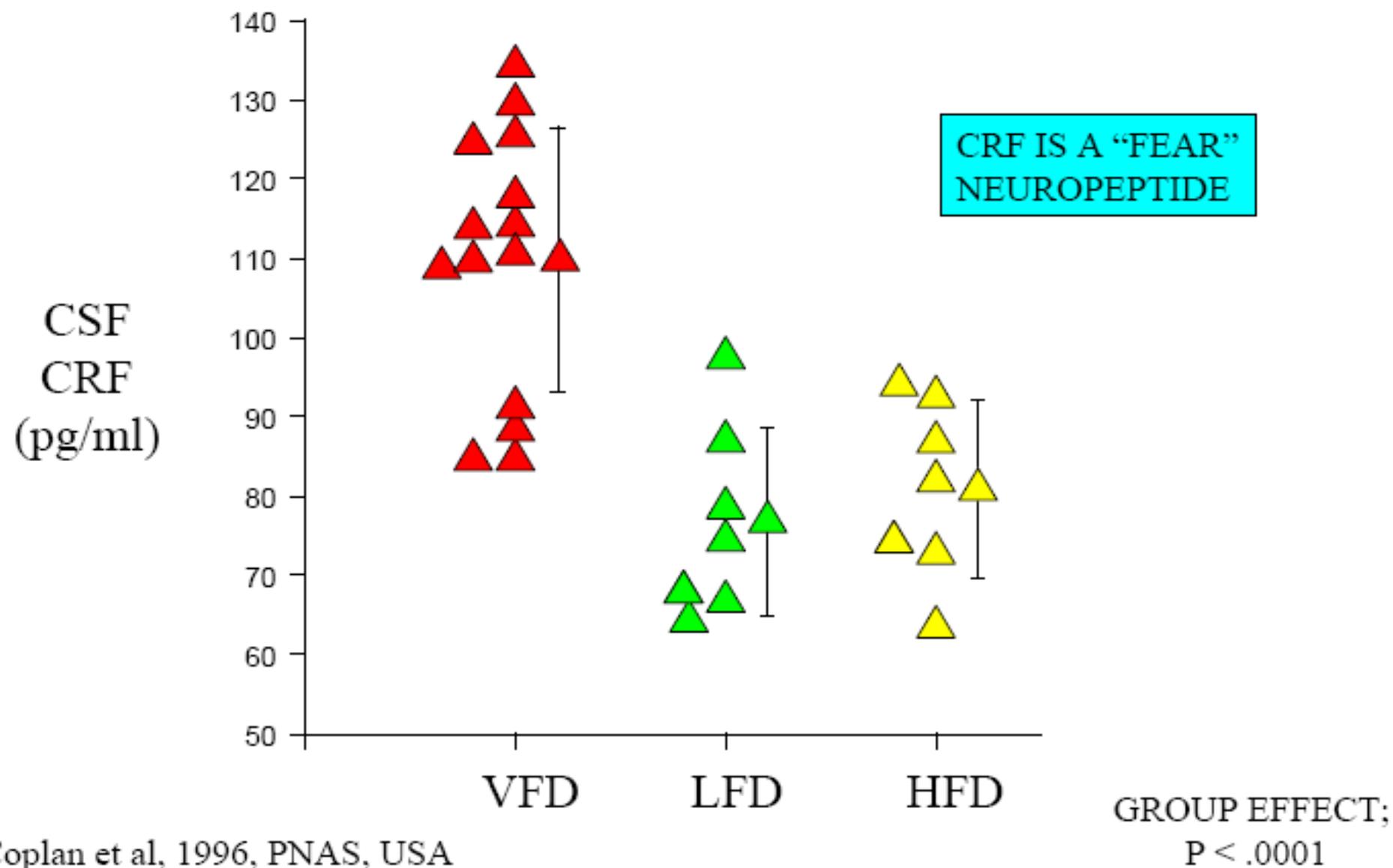
TNF- α /
TNF- α sR-I





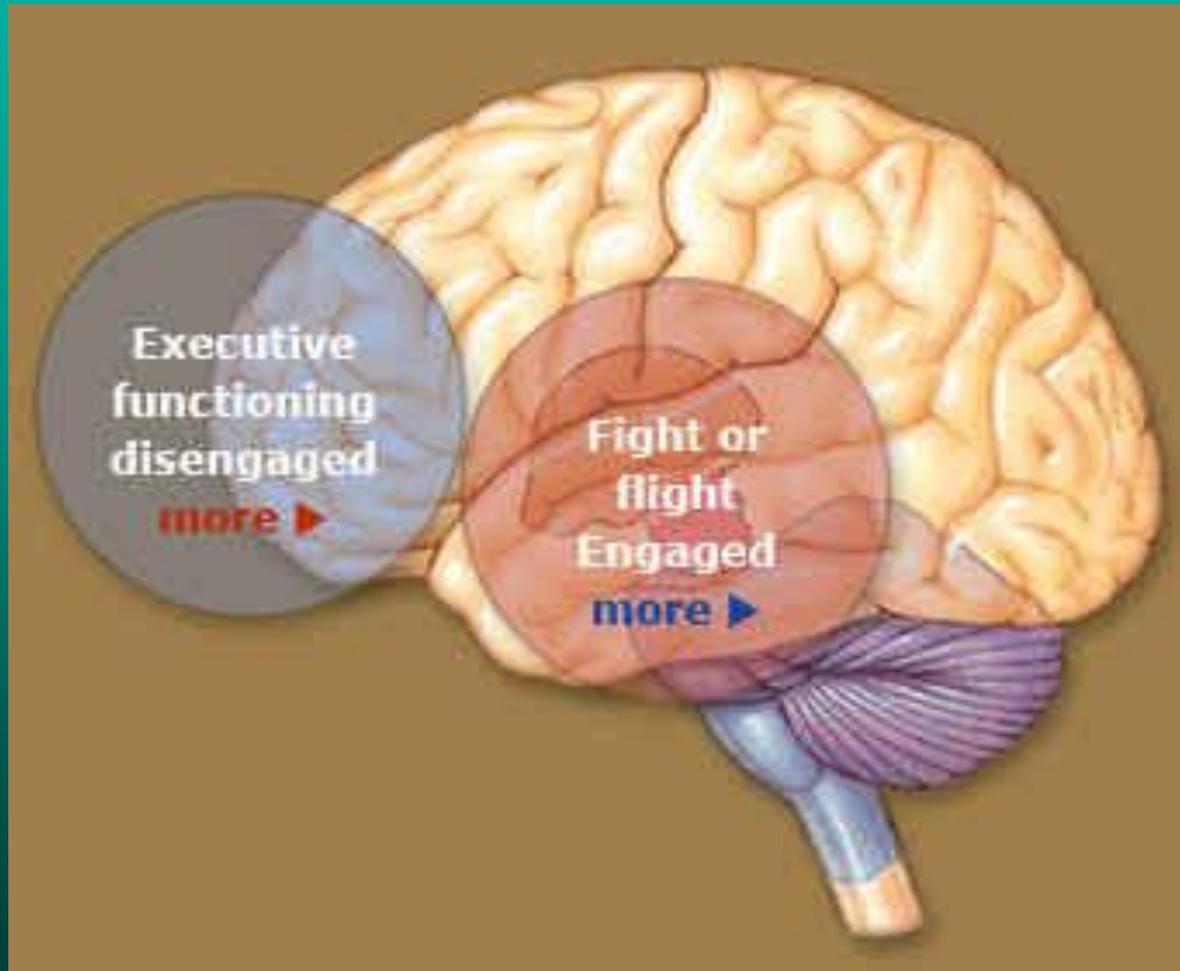


CSF CRF CONCENTRATIONS IN DIFFERENTIALLY-REARED JUVENILE PRIMATES:





The stressed brain

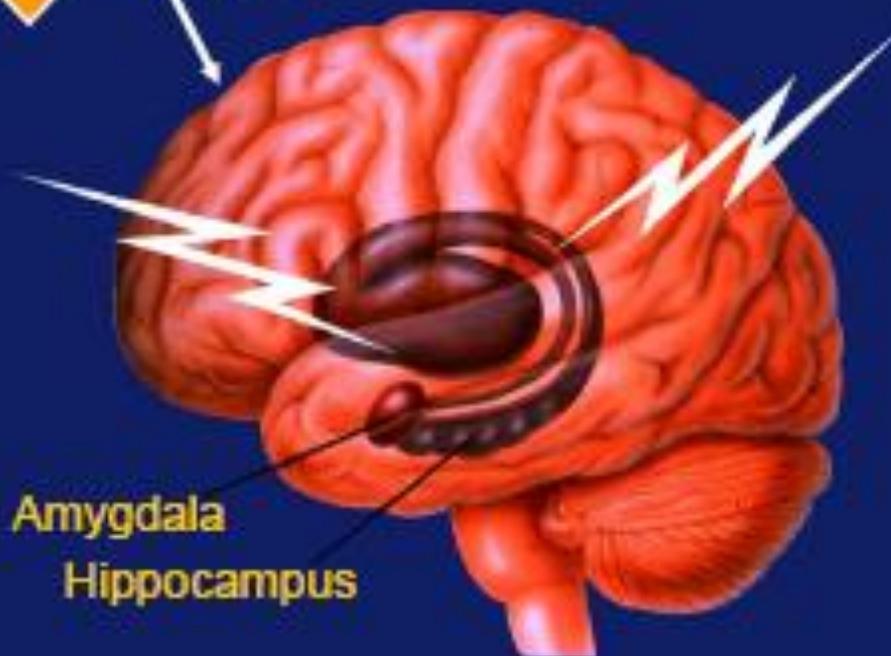


The Human Brain Under Stress: key brain regions

Prefrontal cortex

Executive function, working memory

Atrophy



Amygdala

Hippocampus

Hippocampus

Contextual, episodic, spatial
memory

Atrophy

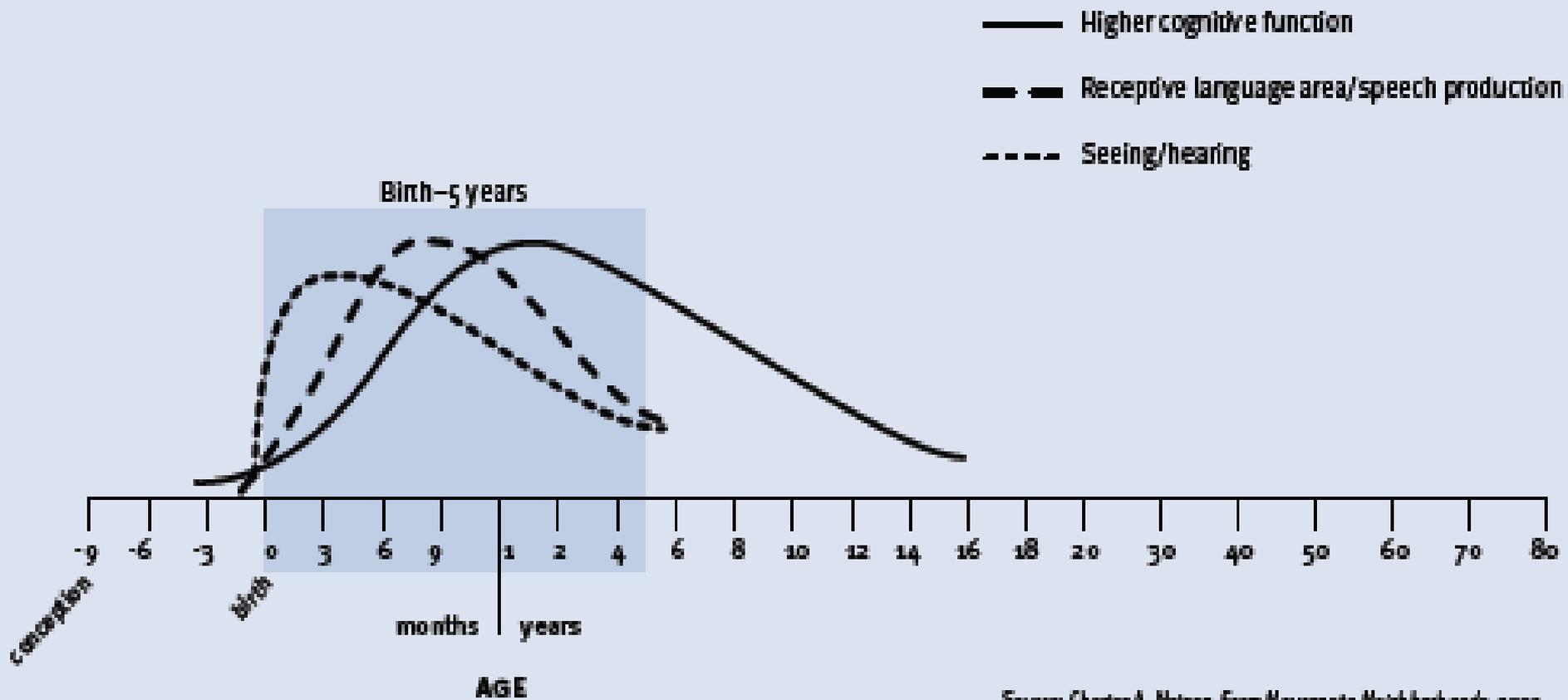
Amygdala

Emotion, fear, anxiety

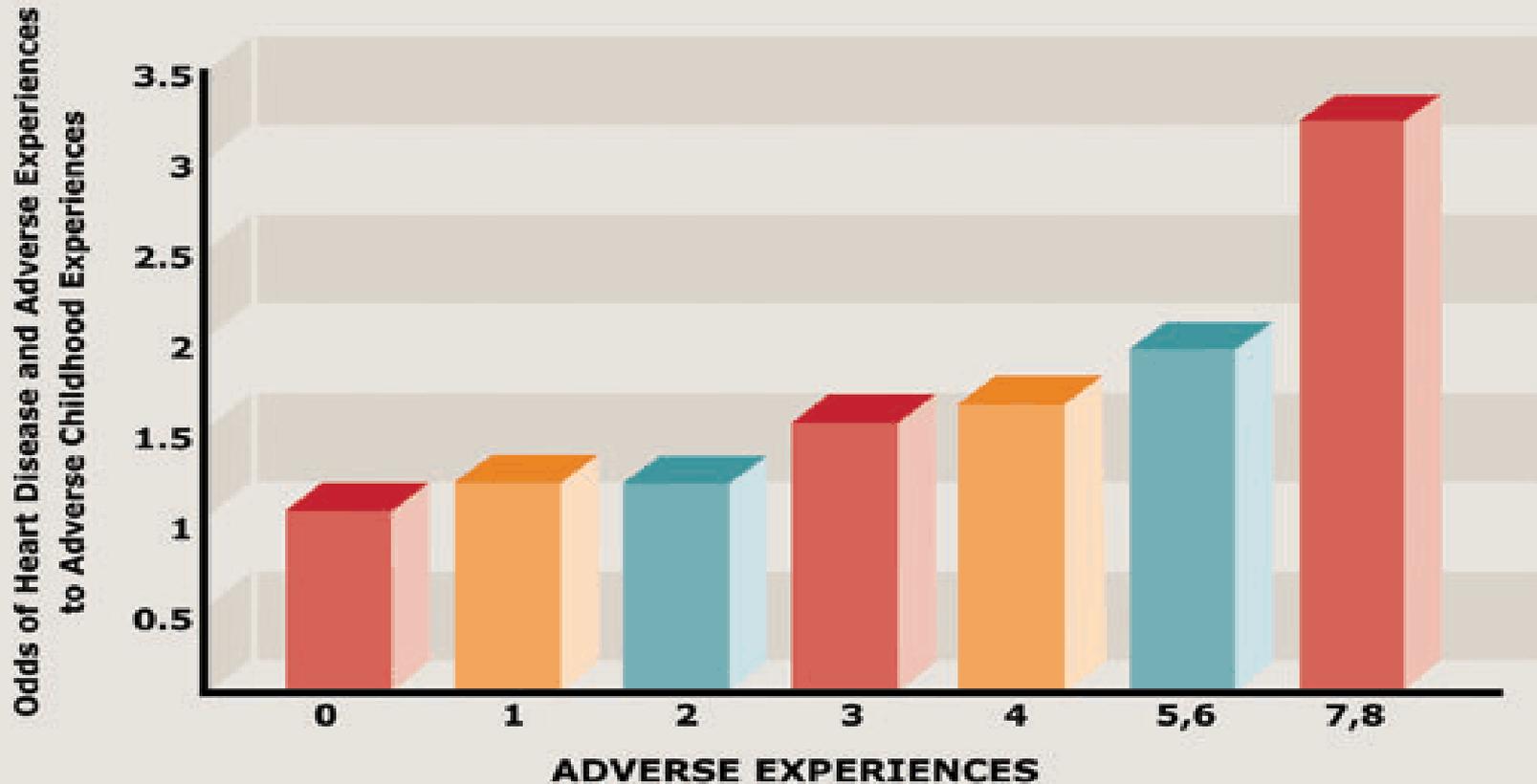
Hypertrophy.

later atrophy

Synapse Formation in the Developing Brain



Risk of heart disease and early adversity



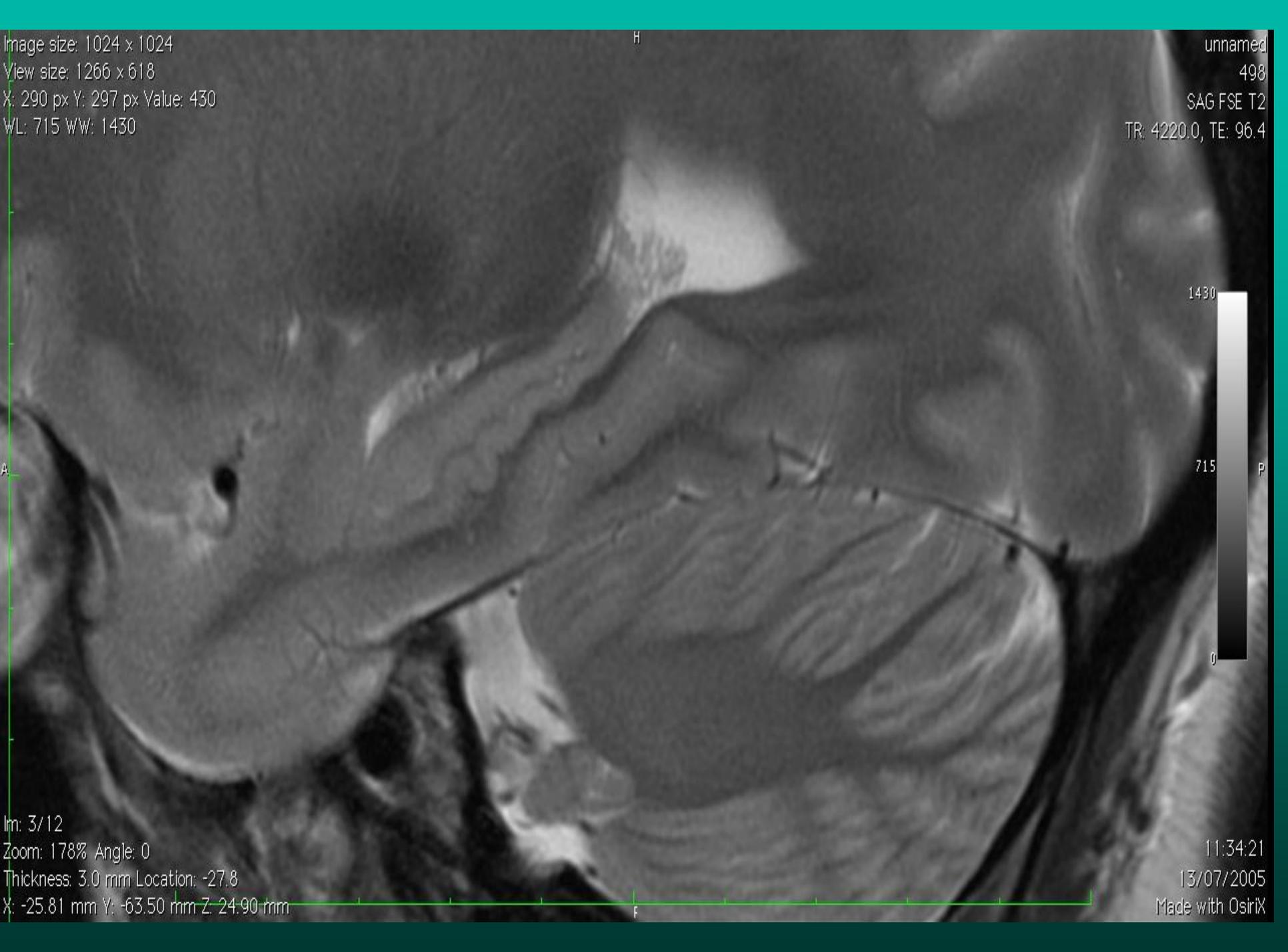
The Dunedin cohort

- 1000 children recruited in late 1972/3
- At age 3, “at risk” children identified on the basis of chaotic circumstances, emotional behaviour, negativity and poor attentiveness
- As adults, those “at risk” were more likely to :
 - be unemployed
 - have criminal convictions (especially for violence)
 - been pregnant as a teenager
 - have a substance abuse problem
 - exhibit signs of insulin resistance and metabolic syndrome

Image size: 1024 x 1024
View size: 1266 x 618
X: 290 px Y: 297 px Value: 430
WL: 715 WW: 1430

H

unnamed
498
SAG FSE T2
TR: 4220.0, TE: 96.4



Im: 3/12
Zoom: 178% Angle: 0
Thickness: 3.0 mm Location: -27.8
X: -25.81 mm Y: -63.50 mm Z: 24.90 mm

11:34:21
13/07/2005
Made with OsiriX

Health Deficits approach

- ◆ Focuses on problems, needs and deficiencies in a community such as deprivation, illness and health damaging behaviours. It designs services to fill the gaps and fix the problems. As a result, communities can feel disempowered. People become passive recipients of services rather than active agents in their own lives

Health Assets

- A health asset is any factor or resource which enhances the ability of individuals, communities and populations to maintain their health and sustain wellbeing. The assets can operate...as protective and promoting factors to buffer against life's stresses

Morgan and Ziglio 2009

Building on assets

- ◆ Economic assets
 - Government and the private sector
- ◆ Environmental assets
 - Local government, community
- ◆ Social networks as assets
 - Community, 3rd sector
- ◆ Personal sense of control
 - Community, 3rd sector

Building on assets

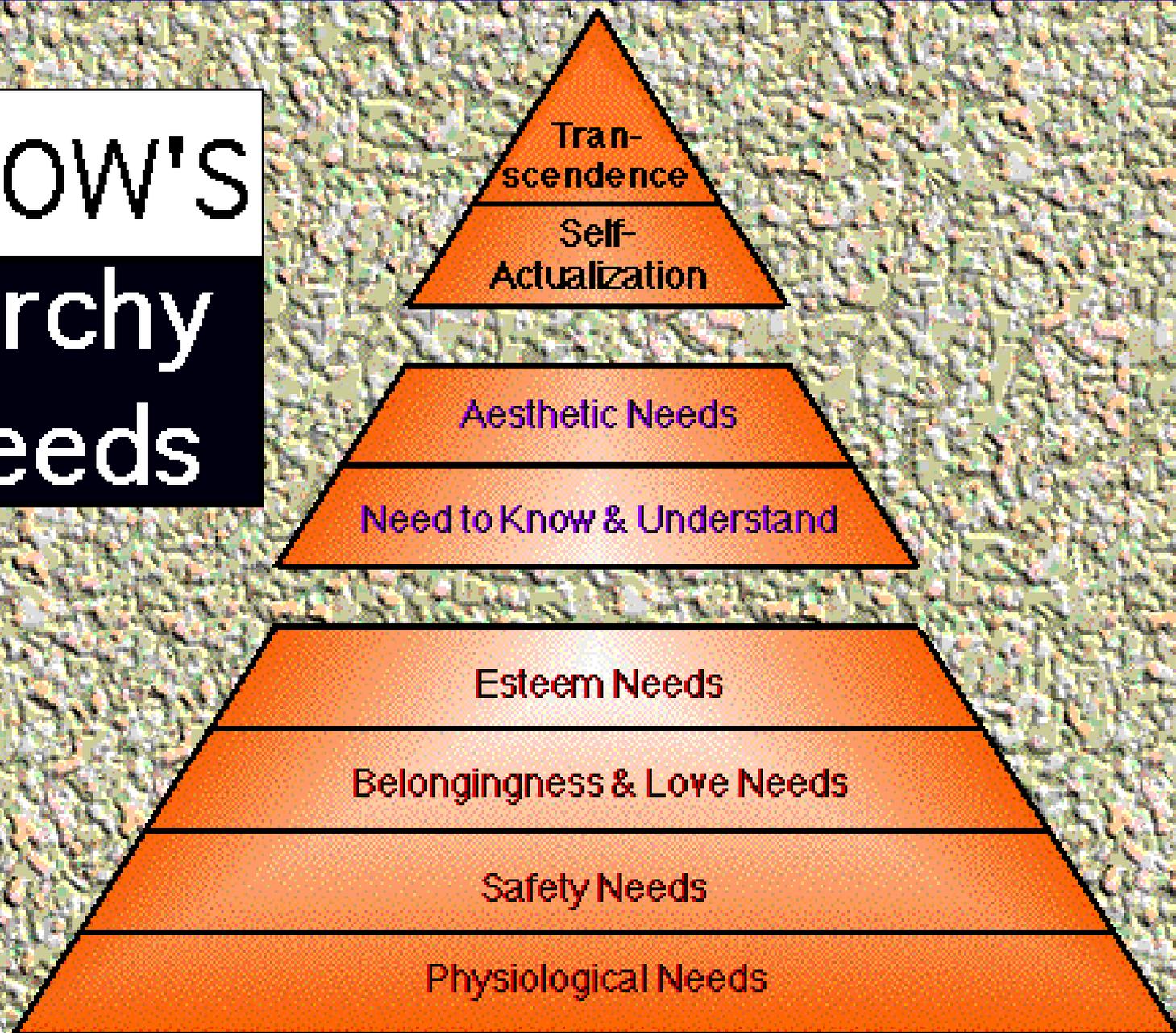
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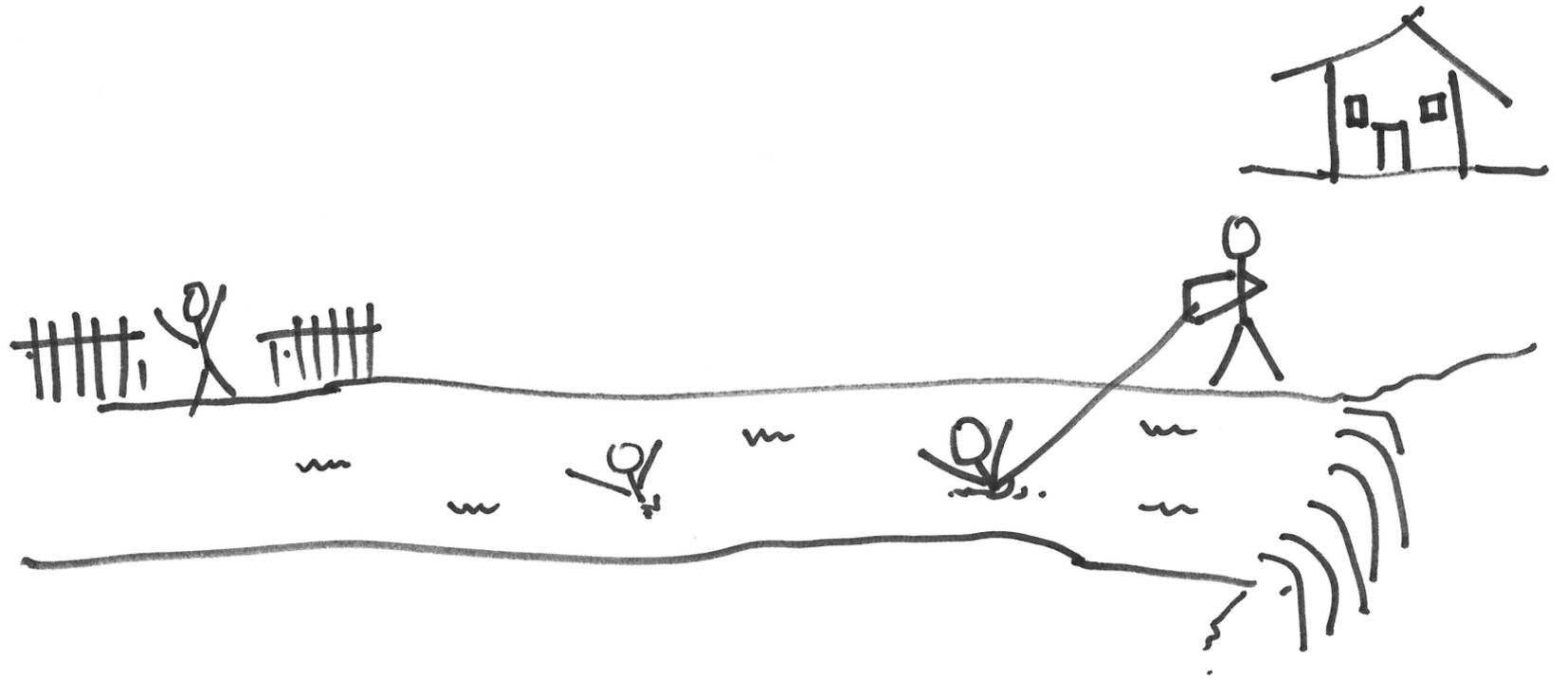


Relevance
to people



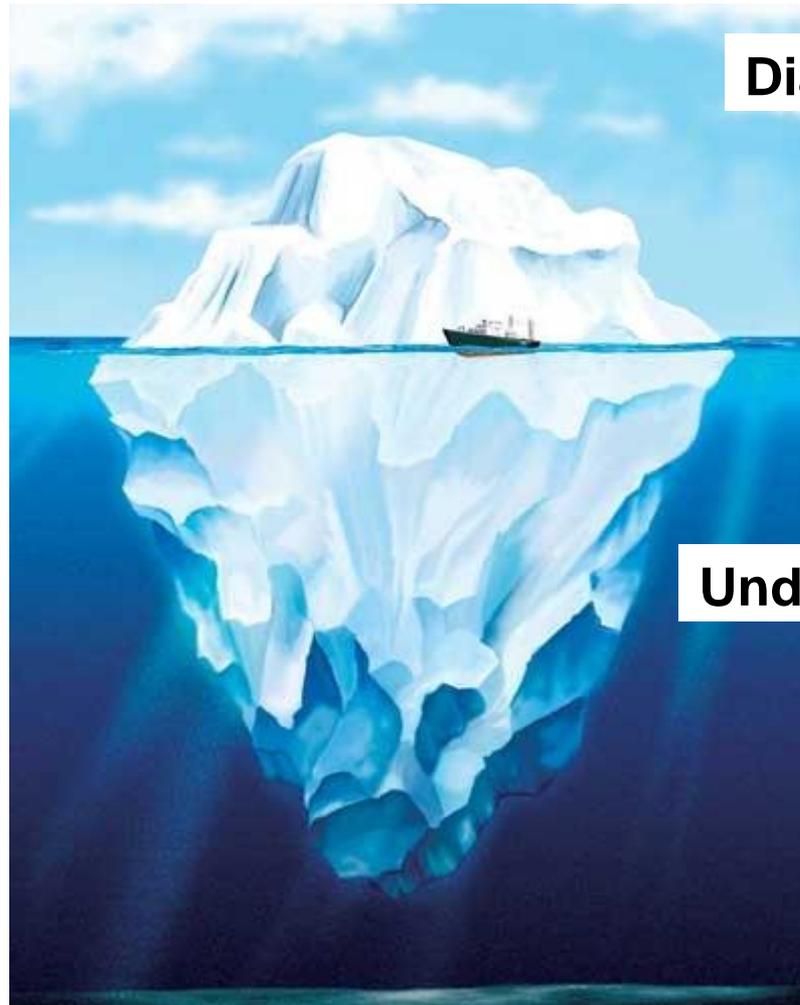
MASLOW'S Hierarchy of Needs







The iceberg of ill health



Diagnosed disease

Underlying risk factors

Jimmy Reid 1971



Rectorial Address

- “Let me right at the outset define what I mean by alienation. It is the cry of men who feel themselves the victims of blind economic forces beyond their control. It's the frustration of ordinary people excluded from the processes of decision making. The feeling of despair and hopelessness that pervades people who feel with justification that they have no real say in shaping or determining their own destinies....”

