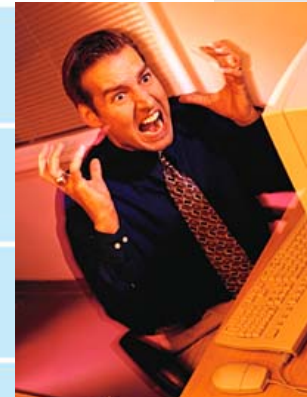
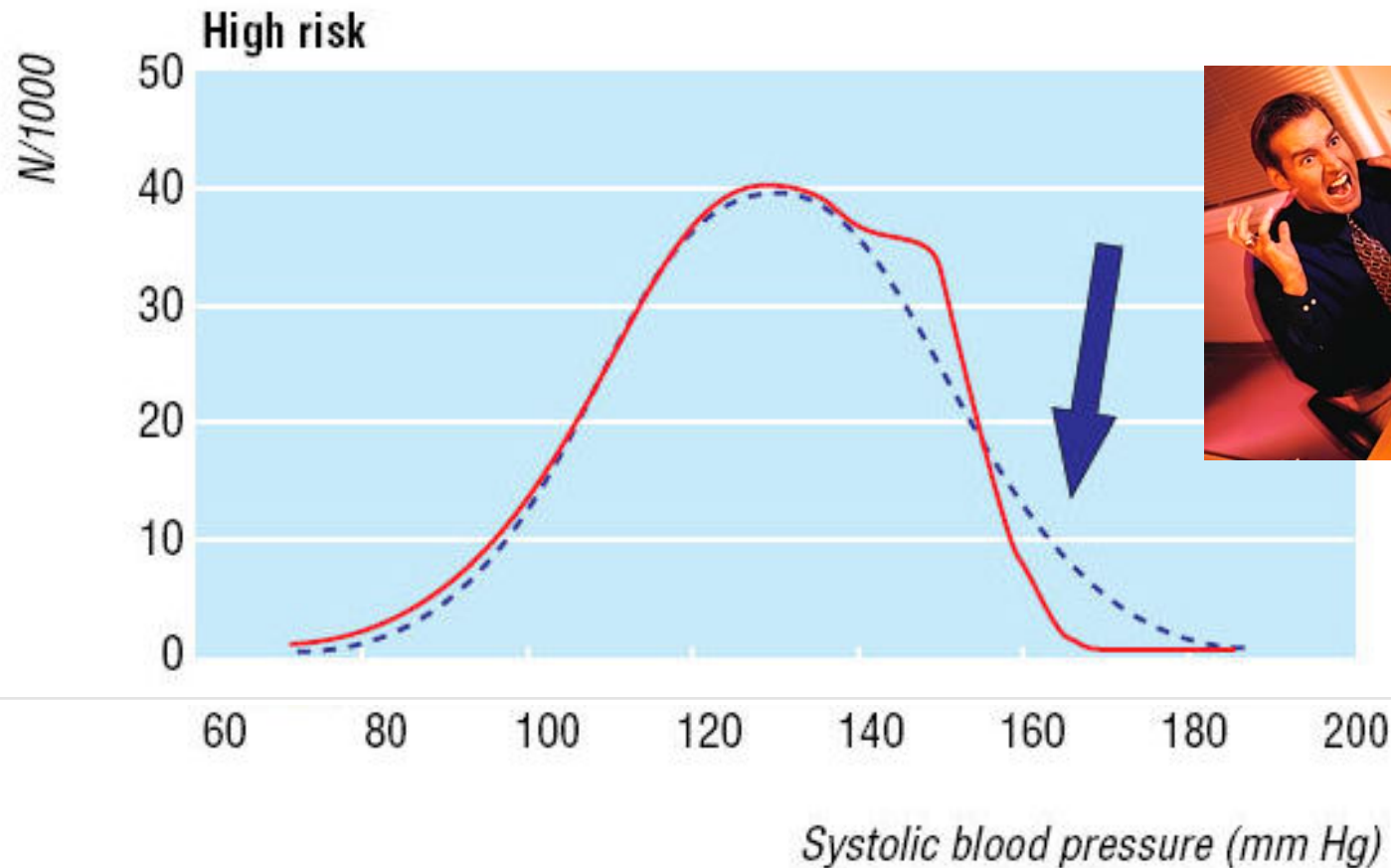

Interventions

High risk prevention strategy



High risk interventions compared with mass population interventions: impact on an idealised population distribution or bell curve for systolic blood pressure

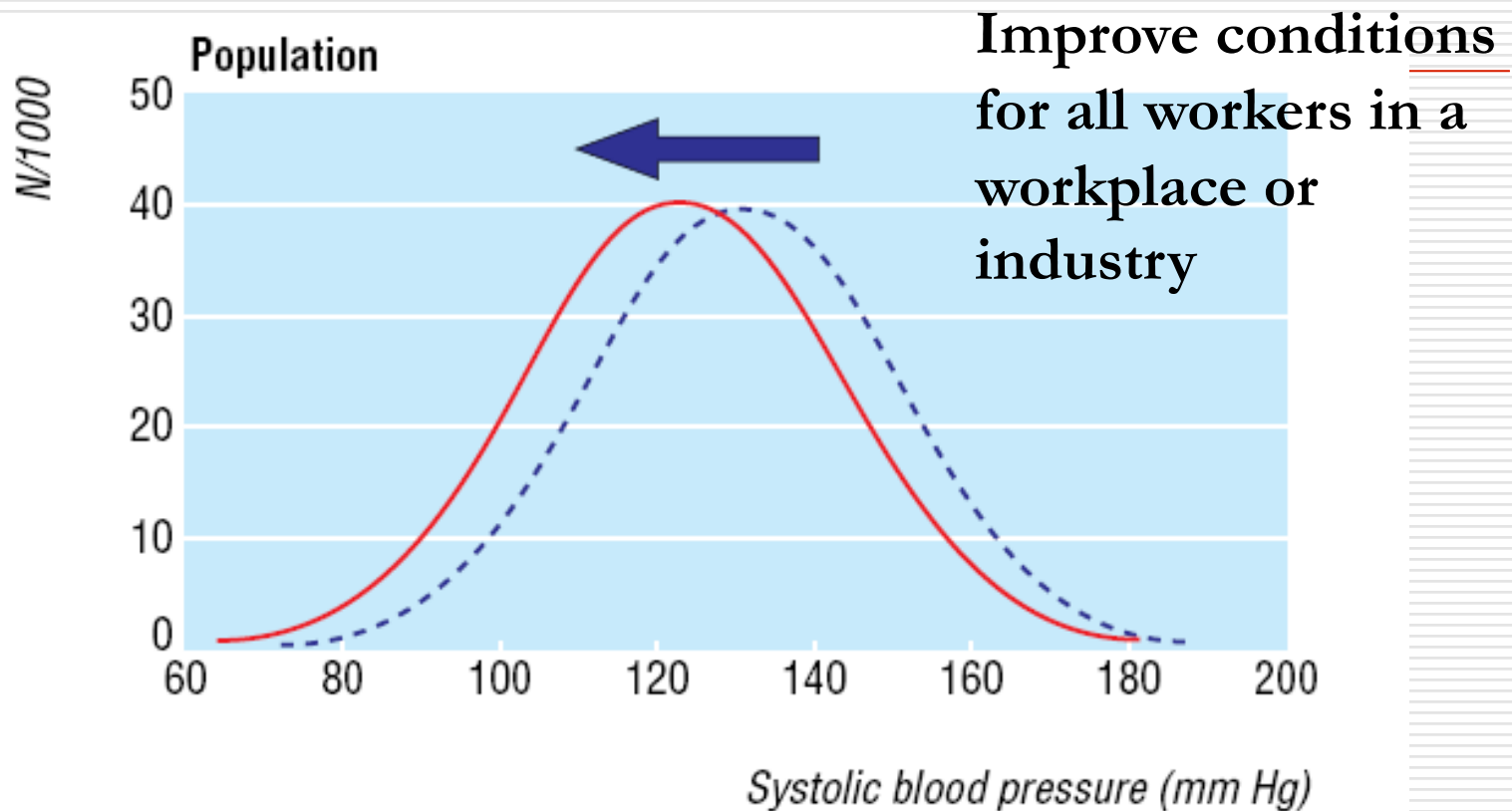
H Tunstall-Pedoe, J Connaghan, M Woodward, et al. Pattern of declining blood pressure across replicate population surveys of the WHO MONICA project, mid-1980s to mid-1990s, and the role of medication. BMJ 2006; 332:629-635.

High risk prevention strategy

High-risk groups

- ☐ Workers facing high demand-low control work (job strain), high efforts-low rewards, long work hours, shiftwork, downsizing
 - ☐ High-risk occupations (e.g., bus drivers)
 - ☐ Workers in precarious jobs
 - ☐ Workers with lower socioeconomic status
-

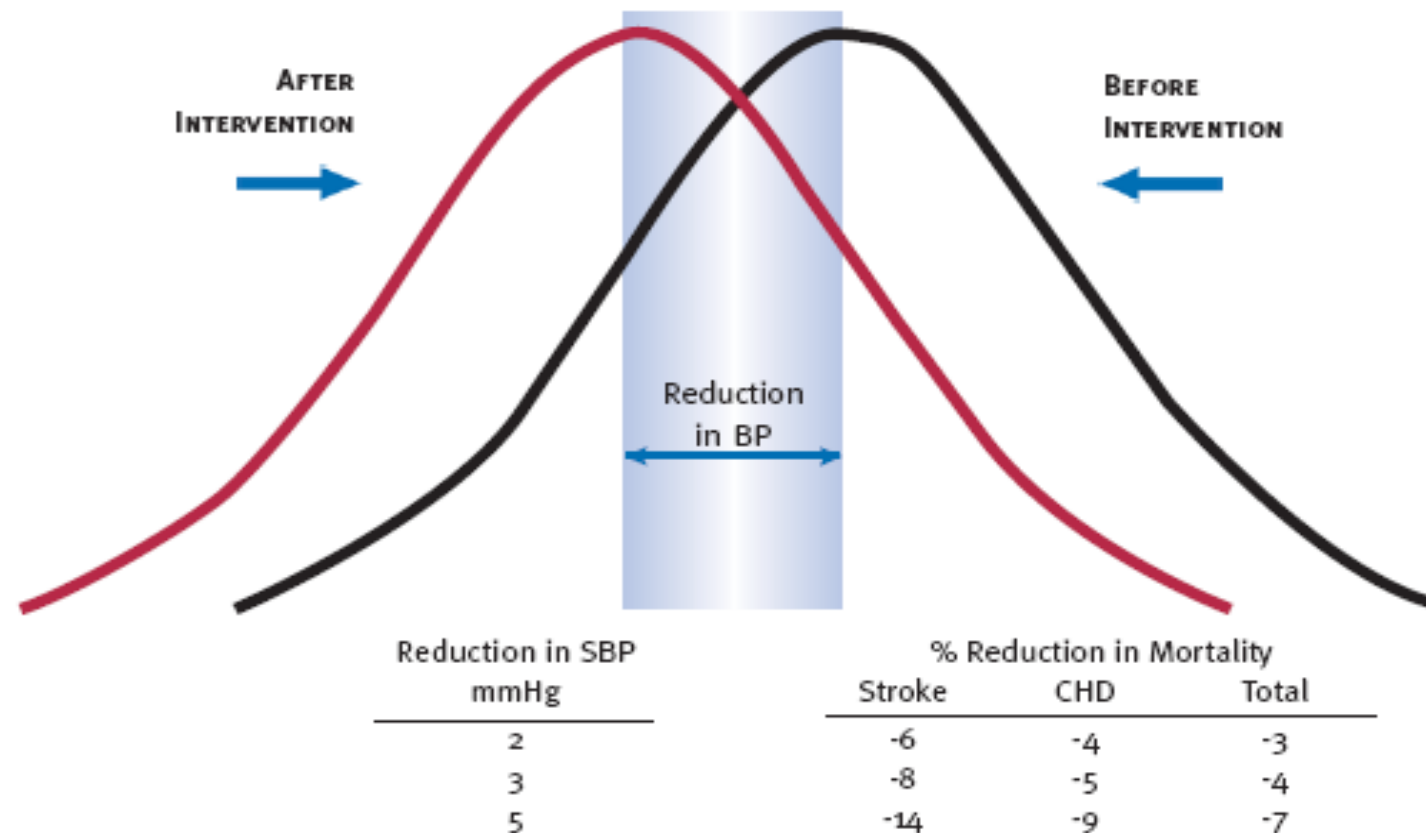
Population prevention strategy



High risk interventions compared with mass population interventions: impact on an idealised population distribution or bell curve for systolic blood pressure

Primary prevention of hypertension

Figure 15. Systolic blood pressure distributions



BP, blood pressure; CHD, coronary heart disease; SBP, systolic blood pressure

Source: Whelton PK, et al. Primary prevention of hypertension: Clinical and public health advisory from The National High Blood Pressure Education Program. *JAMA* 2002;288:1882-8.

Why not solely stress management?

Benefits seen, but....

- ☐ **Limited follow-up (only 23% > 6 months)**
 - **Are benefits maintained?**
- ☐ **Benefits seen also in control groups**
 - **Example: 20 BP studies: Avg. drop in systolic BP =**
 - ☐ **7.8 mm Hg (stress mgmt groups)**
 - ☐ **4.9 mm Hg (control groups)**
- ☐ **About 1/3 of participants failed to learn techniques**

Why not just do stress management?

Example: Biofeedback for hypertension

□ 8 randomized clinical trials reporting follow-up of more than 6 months:

- 6 studies: no difference between biofeedback & control group**
- 2 studies: mixed results: some positive effects of biofeedback**

Interventions: what is being changed?

Primary prevention

Social change →

**Economic, political
context**



Organizational change →

Organizational context

New systems of work organization
Contingent work, downsizing
Flexible scheduling policies



Job redesign →

Job characteristics

Low job control
High job demands
Social isolation



Secondary prevention

Individual coping →

Stress response

Physiological effects (e.g., BP)
Psychological effects (e.g., burnout)
Health behaviors

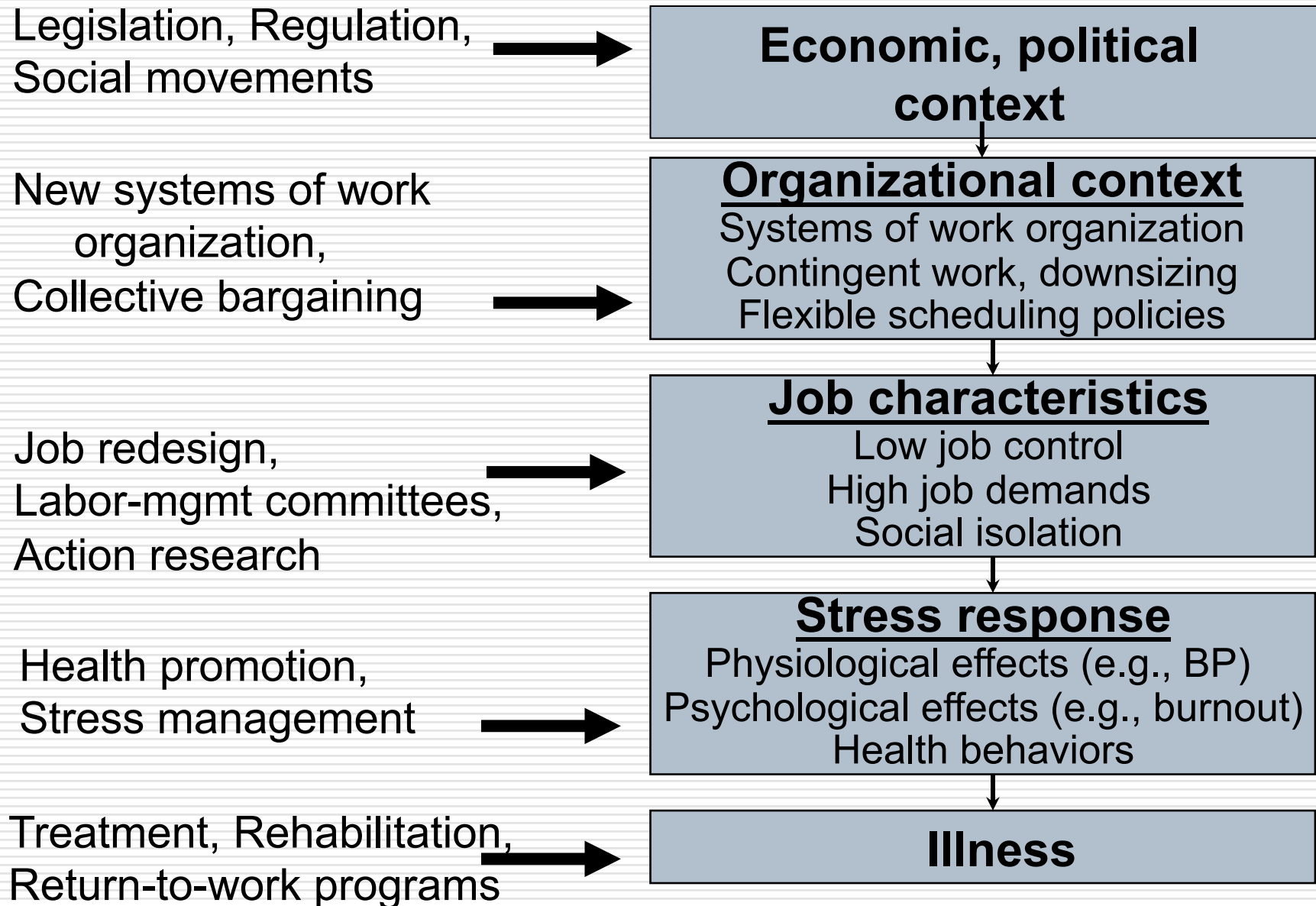


Tertiary prevention

Individual Tx, rehab →

Illness

How do we go about making change?



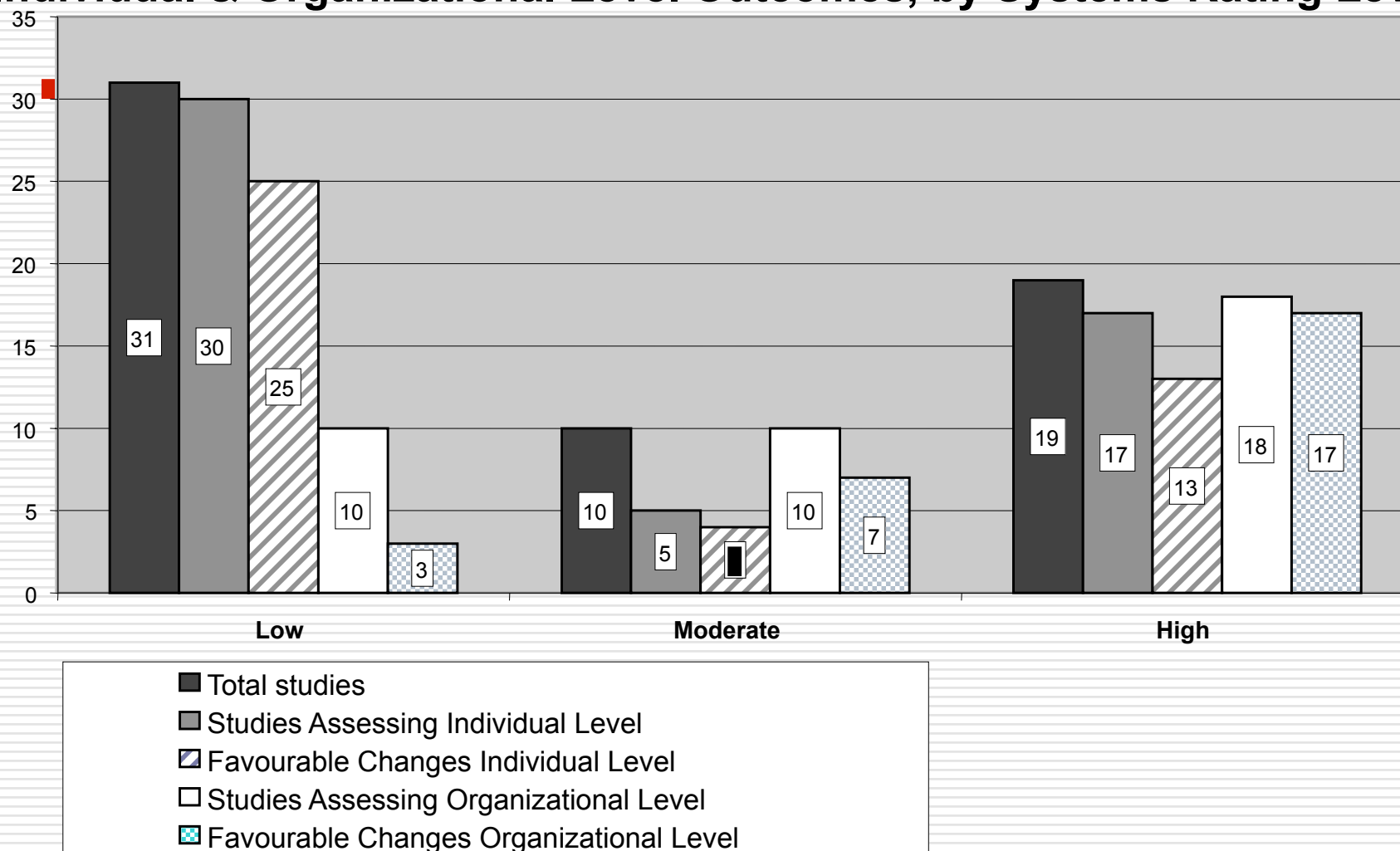
“Systems approaches” effective in reducing stress, improving health

- ❑ 90 interventions reviewed
- ❑ *Low* (individual only; secondary prevention) (48%)
- ❑ *Moderate* (organizational only; primary prevention) (19%)
- ❑ *High* systems approach (33%)
 - ❑ intervention focuses on both organization & individual
 - ❑ growing proportion of published studies
 - ❑ longer intervention & evaluation follow-up, usually months to yrs
 - ❑ most effective in improving organizational & individual outcomes

Job Stress Intervention Studies

Restricted to 4- and 5-star Designs (n= 60):

Individual & Organizational Level Outcomes, by Systems Rating Level



LaMontagne AD, Keegel T, Louie AM, Ostry A, Landsbergis PA. A Systematic Review of the Job Stress Intervention Evaluation Literature: 1990—2005. *International Journal of Occupational and Environmental Health* 2007;13:268–280.

Policy interventions

Legislation, regulations

Legislation & Regulation (U.S.)

☐ National

- OSHA ergonomic regulations, 2000 (machine-pacing, overtime, work pace, rest breaks, job rotation)
- Proposed: paid vacation time, paid sick leave

☐ State

- Minimum staffing levels (e.g., nurses)
- Bans on mandatory overtime (health care workers)
- California: paid family leave
- SF, Wash, DC, Milwaukee, CT state: paid sick leave

☐ State layoffs of public employees, pay cuts

Swedish Work Environment Act, 1977

(amended May 30, 1991, chapter 2, section 1)

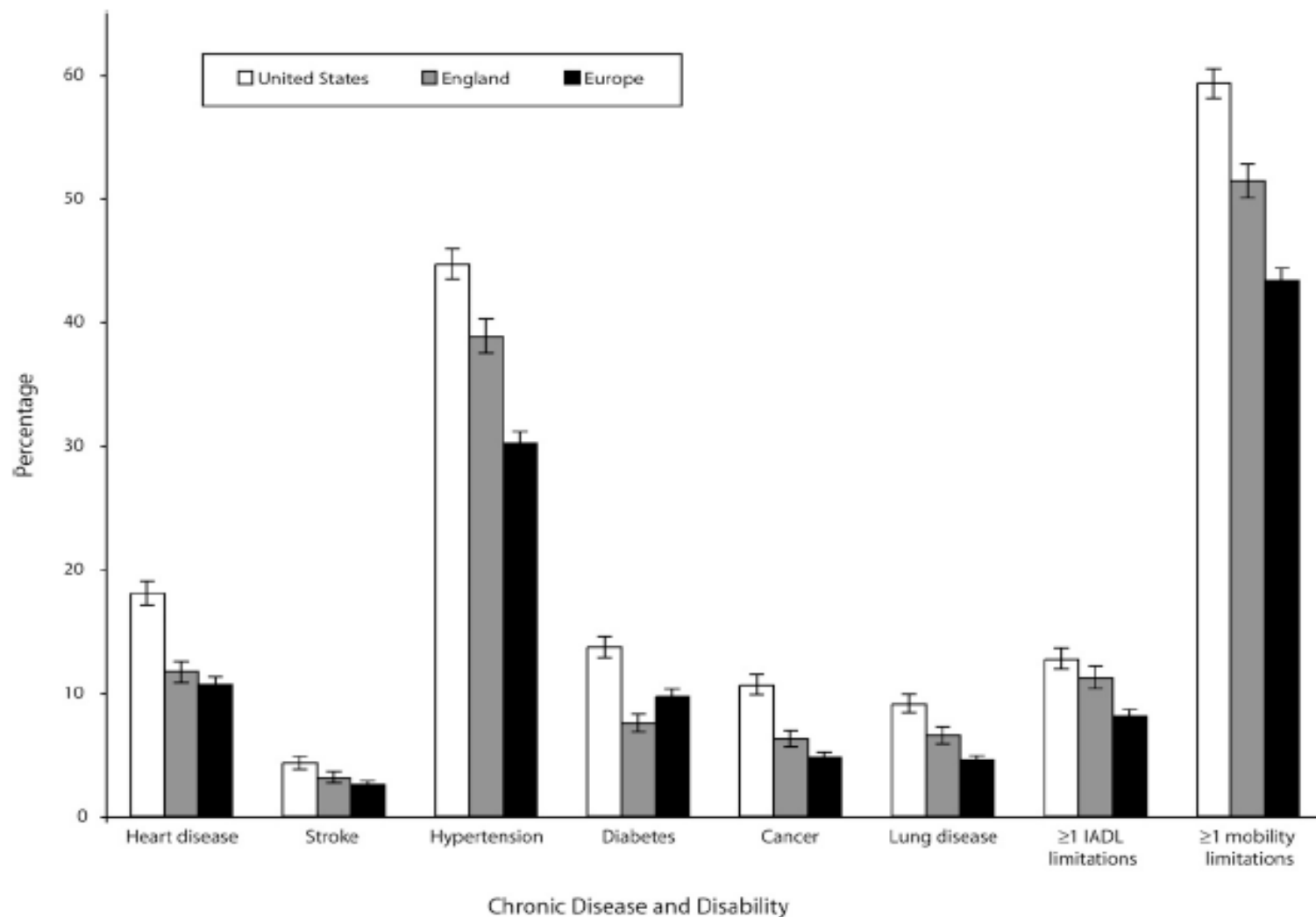
-
- Employee shall be given the opportunity of participating in the design of his/her own working situation
 - Technology, work organization & job content shall be designed in such a way that the employee is not subjected to physical or mental strains which can lead to illness or accidents
 - Ensure that work provides opportunities for:
 - variety, social contact & co-operation
 - personal & professional development

Legislation & Regulation (Europe)

- ❑ Scandinavian Work Environment Acts (1970s)
- ❑ European Union directive (12 June 1989)
 - Less monotonous work at predetermined pace to improve health
- ❑ European Council directive (1996)
 - Right to refuse >48 hrs/wk
- ❑ European Commission Guidance on work-related stress (2000)
- ❑ European labor-management (8 October 2004)
 - Framework agreement on work-related stress

Workplace flexibility for lower wage workers

- ❑ 168 countries offer guaranteed paid pregnancy leave to women
- ❑ 137 countries mandate paid annual leave
- ❑ 145 countries provide paid sick days or leave for illnesses
- ❑ U.S. does not guarantee any of these yet
 - 76% low-income working parents: no pd sick days (vs 50%: priv. sec.)
- ❑ California: 1st state paid family leave law, 2004: up to 6 wks of partial pay/yr to care for new child, seriously ill family member
 - Unionized employers 3.6x more likely to have such benefits
- ❑ New York: Working Families Time To Care Act (A7130)
 - Expand on TDI: provide paid family leave for parents of newborns (or newly adopted children) and adults who care for ailing relatives

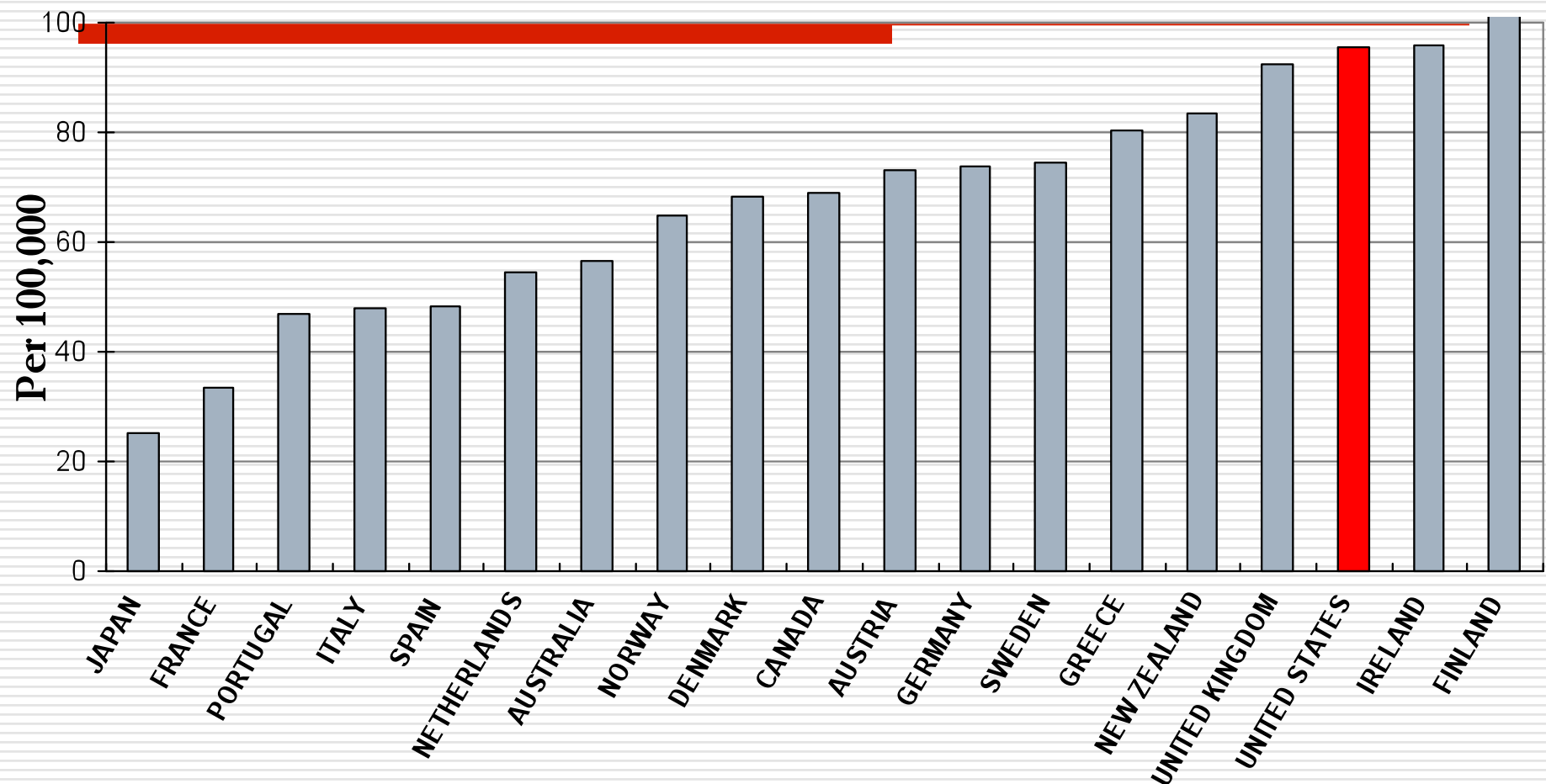


Notes. HRS = Health and Retirement Survey; ELSA = English Longitudinal Study of Ageing; SHARE = Survey of Health, Ageing and Retirement in Europe; IADL = instrumental activities of daily living. Model adjusted for age and gender; lines indicate 95% confidence intervals.

FIGURE 1—Prevalence of chronic disease and disability among men and women aged 50 to 74 years in the United States, England, and Europe: HRS, United States, 2004; ELSA, England, 2004; and SHARE, Europe, 2004.

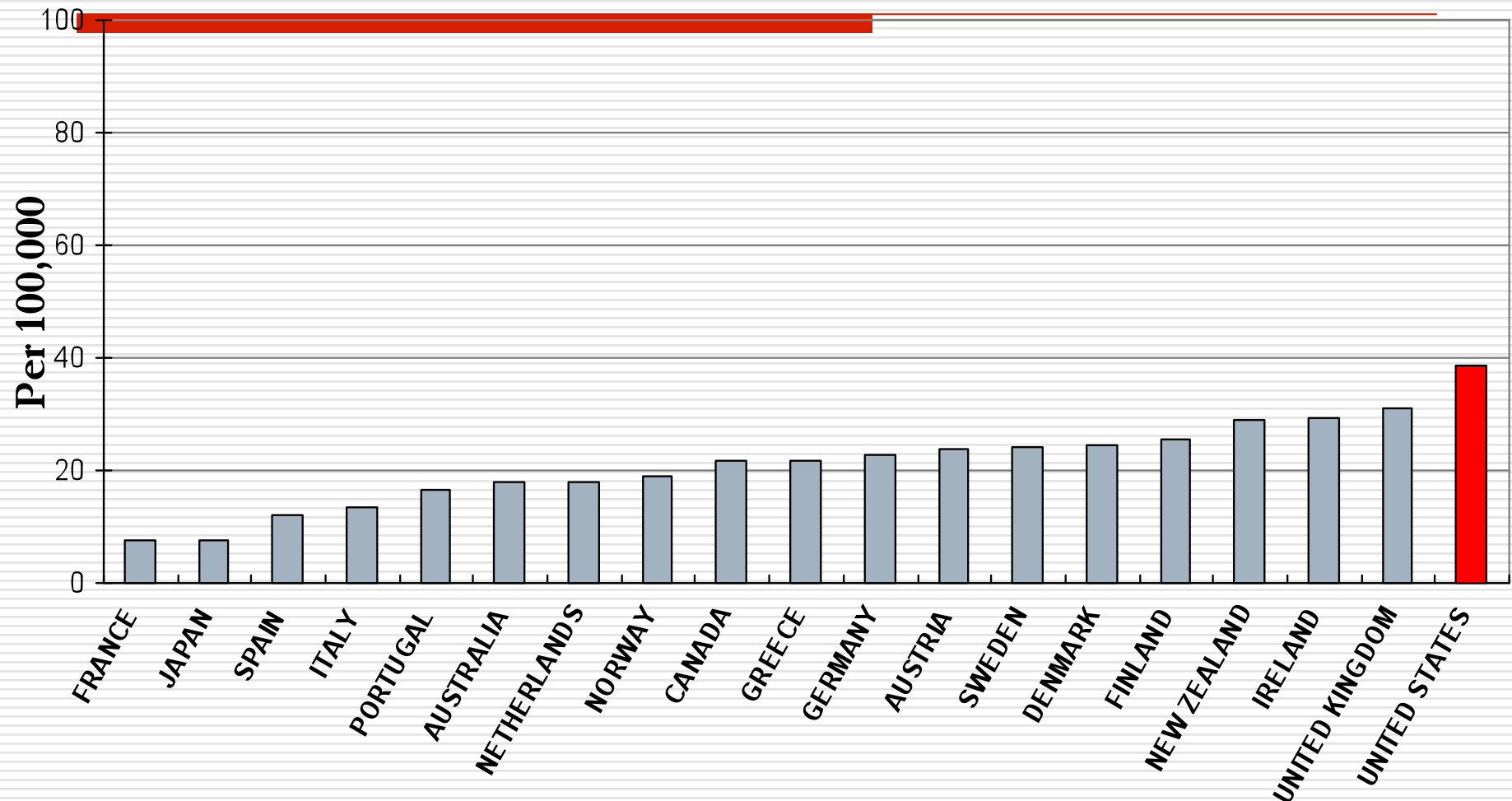
Coronary Heart Disease death rates:

(age-standardized, men, aged 0-74, 19 OECD countries, 2002-3)

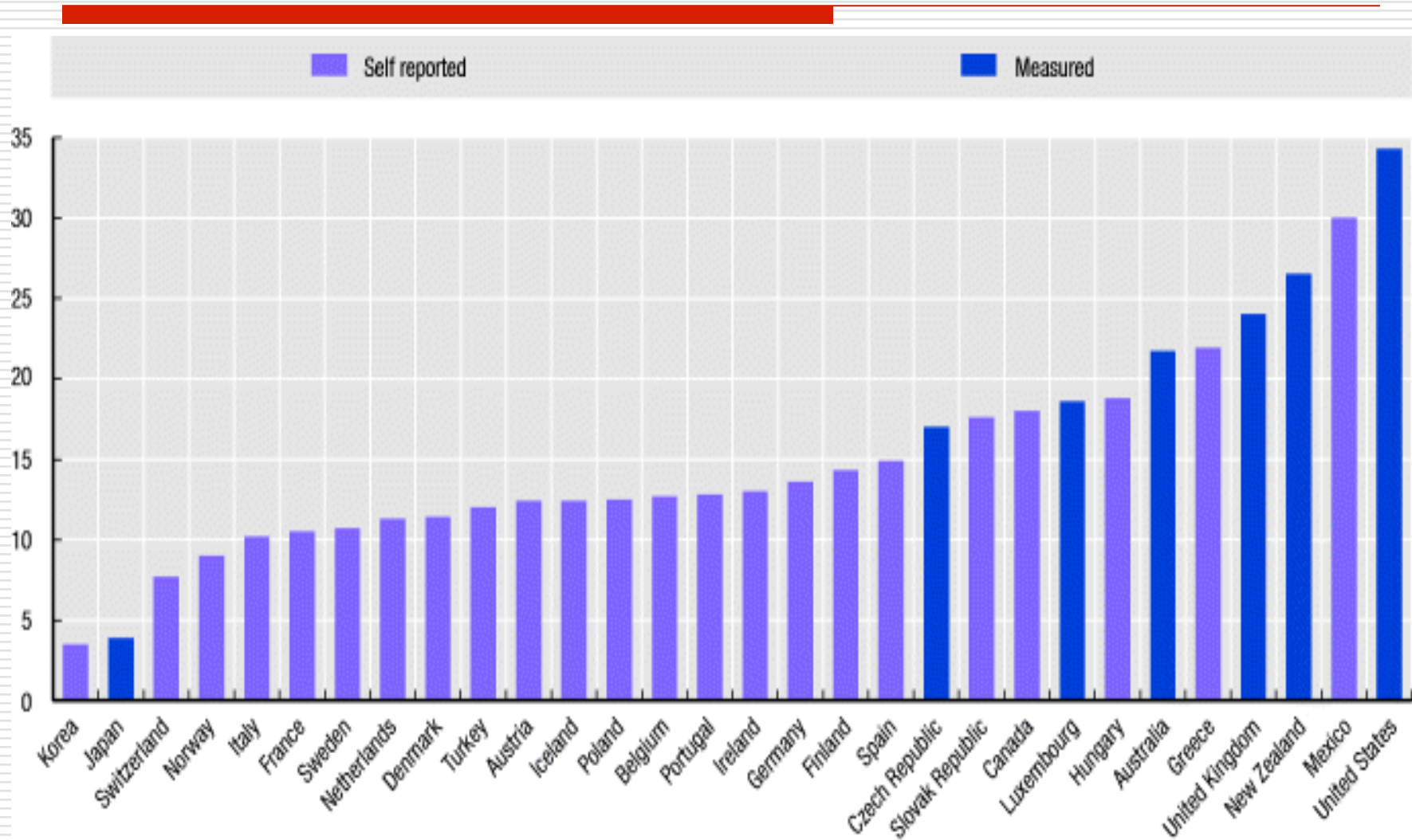


Coronary Heart Disease death rates:

(age-standardized, women, aged 0-74, 19 OECD countries, 2002-3)



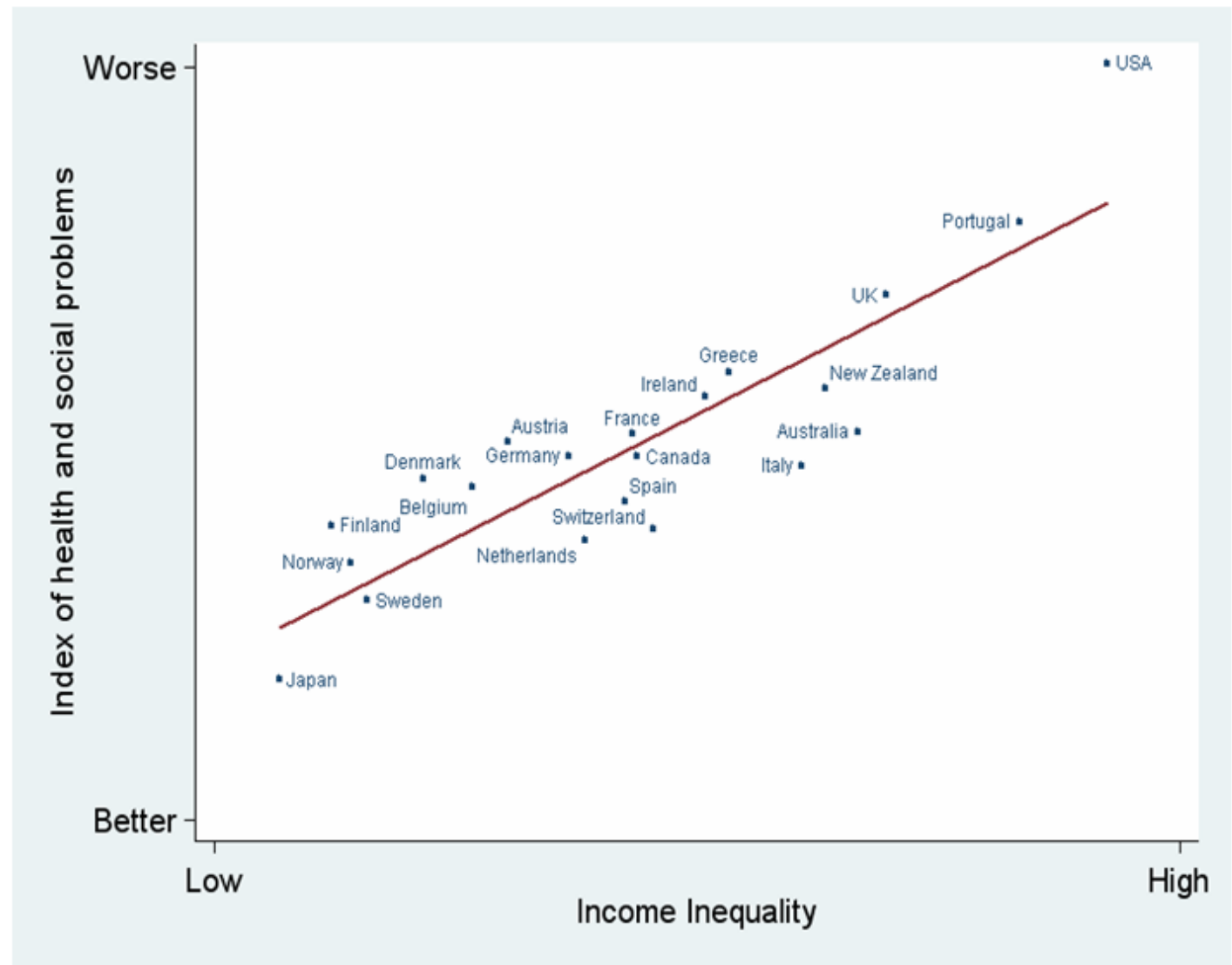
Obesity (% BMI ≥ 30), OECD 2009



Health and Social Problems are Worse in More Unequal Countries

Index of:

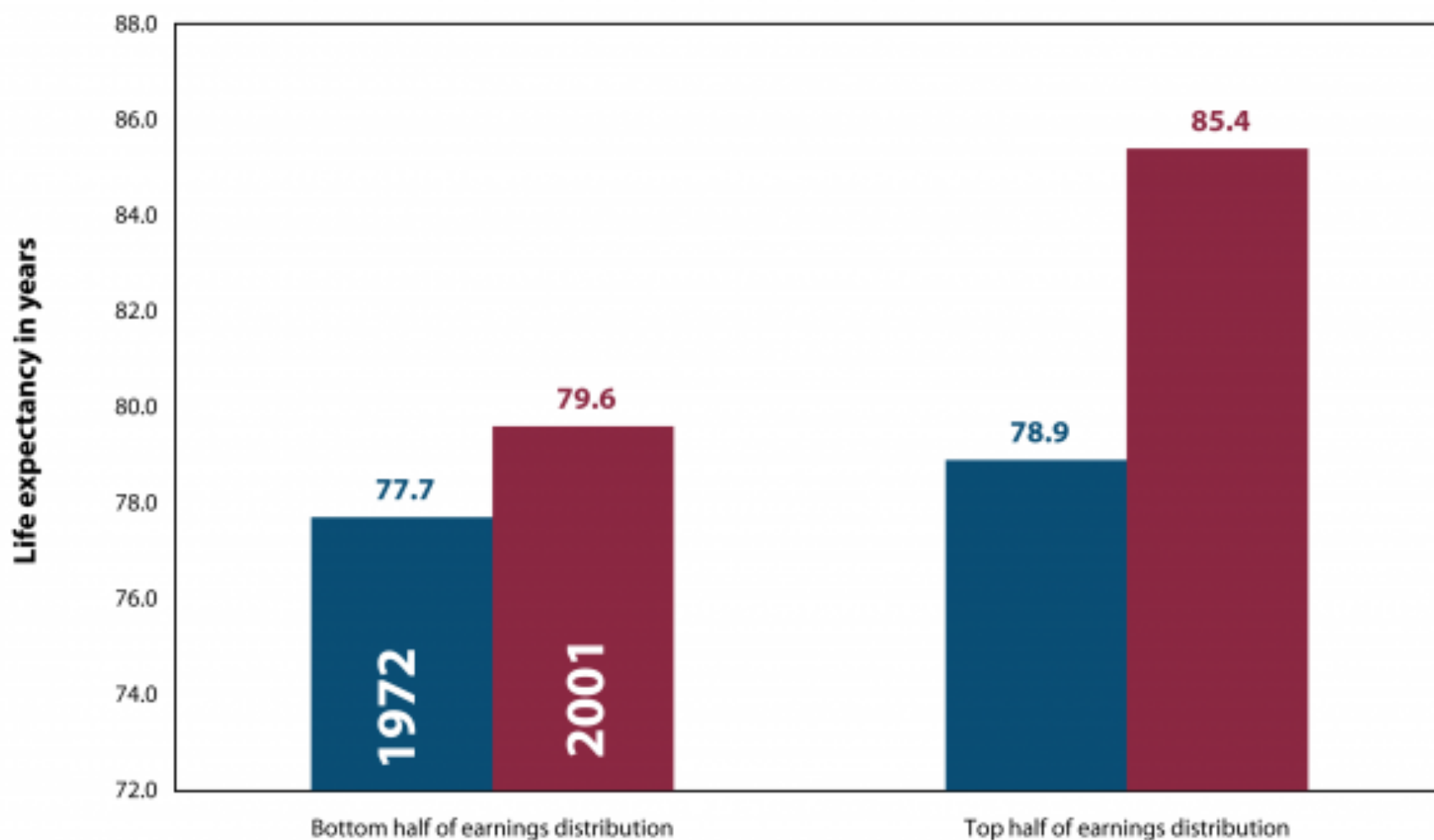
- Life expectancy
- Math & Literacy
- Infant mortality
- Homicides
- Imprisonment
- Teenage births
- Trust
- Obesity
- Mental illness – incl. drug & alcohol addiction
- Social mobility



Source: Wilkinson & Pickett, *The Spirit Level* (2009)

Most gains in life expectancy have gone to high earners

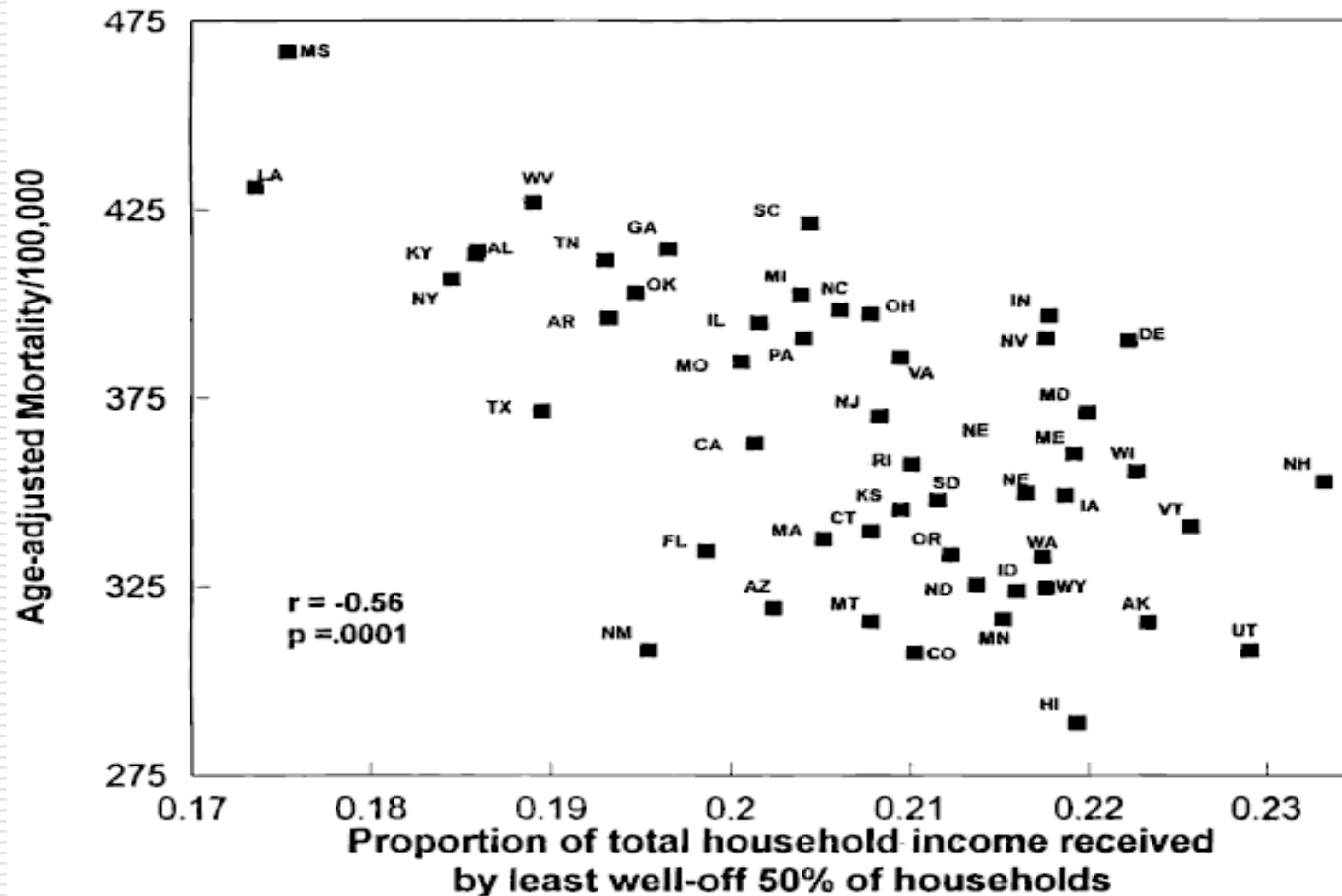
Life expectancy for male Social Security-covered workers (age 60)
by earnings group, 1972 and 2001



Source: EPI analysis of Waldron (2007).

Higher cardiovascular death rates if higher income inequality

(U.S. states, 1990)

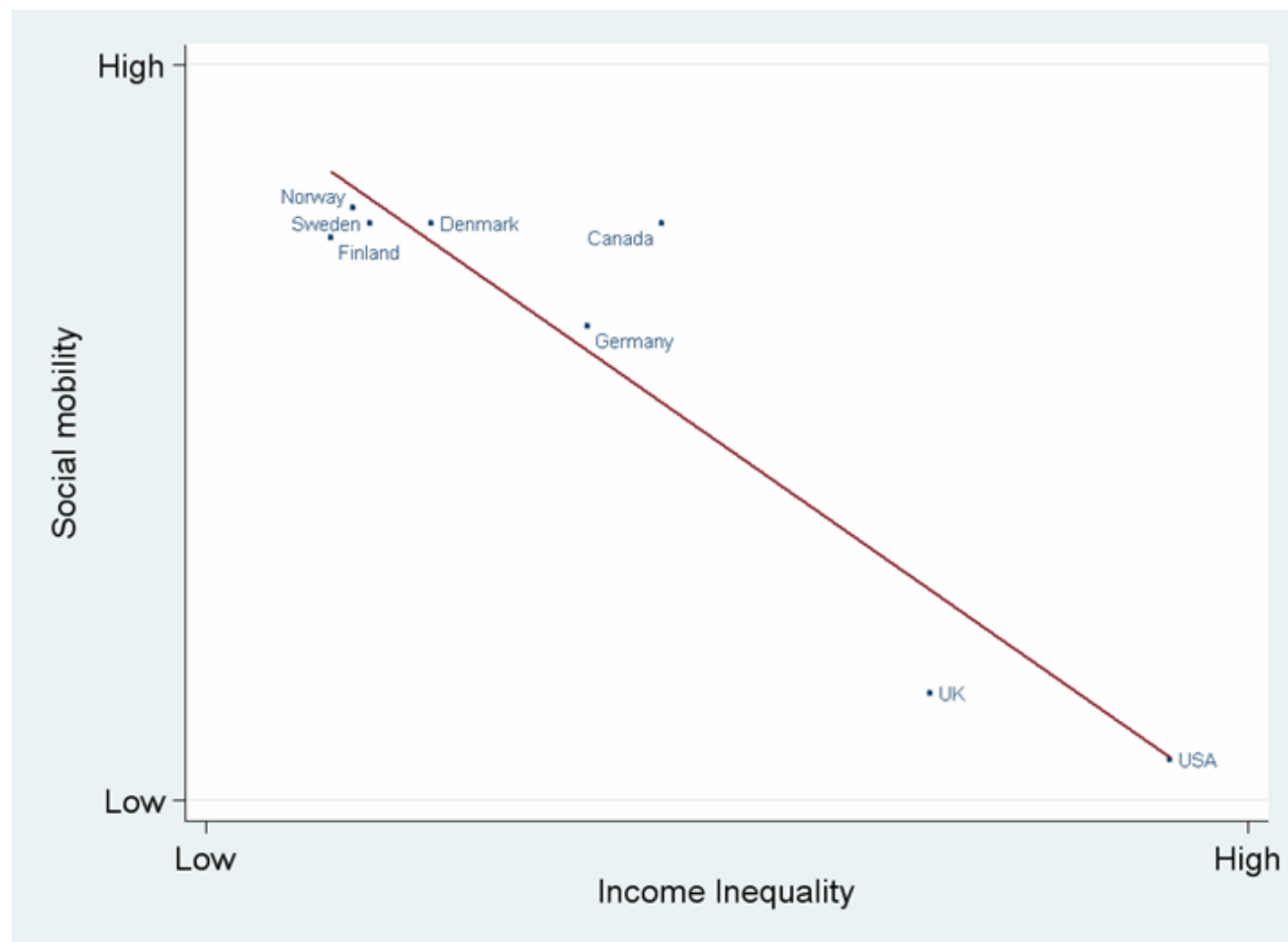


Kaplan GA, Lynch JW. Socioeconomic considerations in the primordial prevention of cardiovascular disease. Preventive Medicine 1999;29:S30-S35.

Characteristics of U.S. states with higher income inequality (1990)

- ❑ ↓ education spending (as % of total)
- ❑ ↑ % without health insurance
- ❑ ↑ unemployment, % prisoners, % food stamps
- ❑ ↑ rates: smoking, sedentary behavior, LBW, homicides, violent crimes
- ❑ working conditions and worker health??

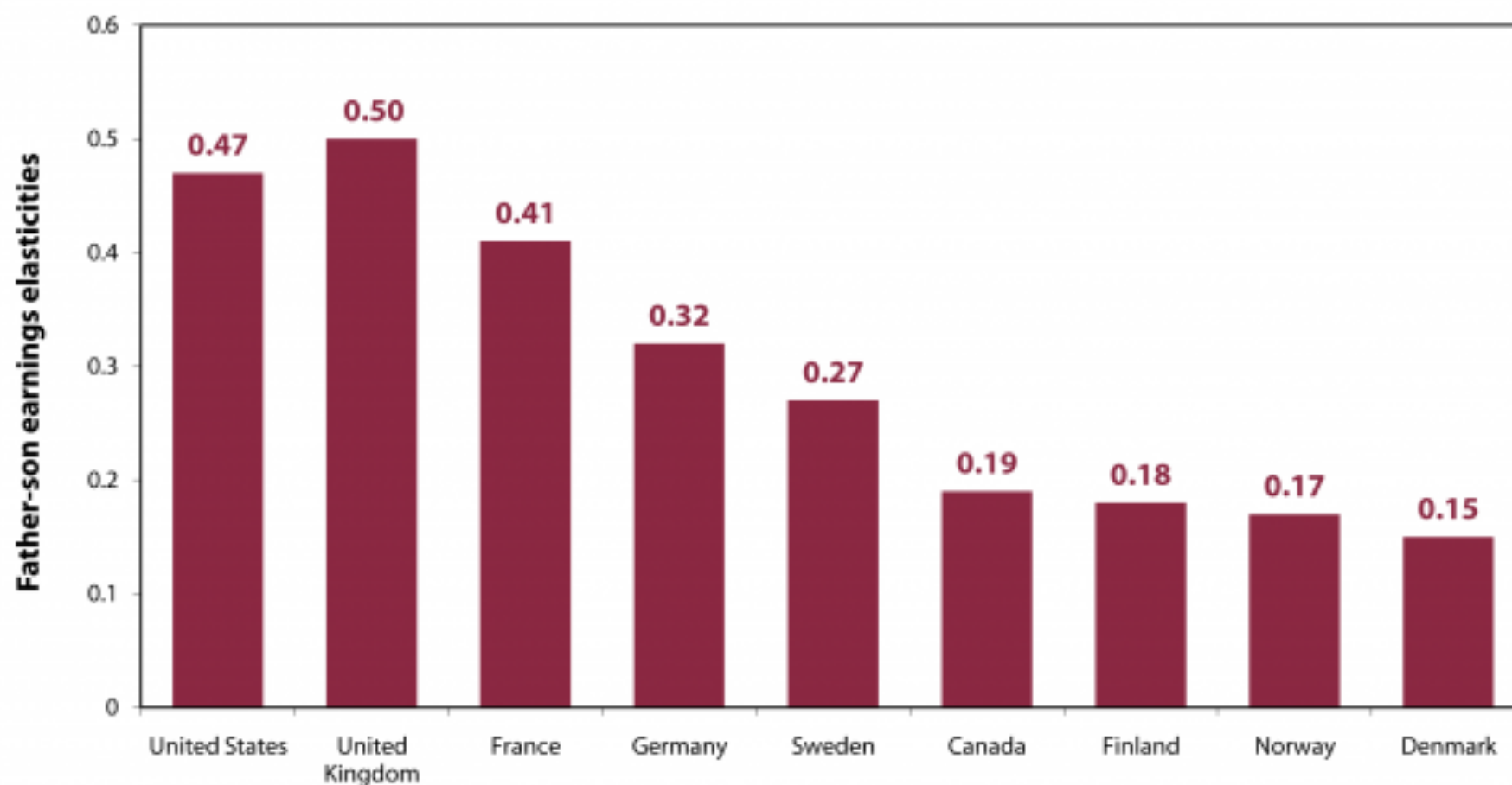
Social Mobility is Higher in More Equal Rich Countries



Source: Wilkinson & Pickett, *The Spirit Level* (2009)

The United States produces less mobility than many of its international peers

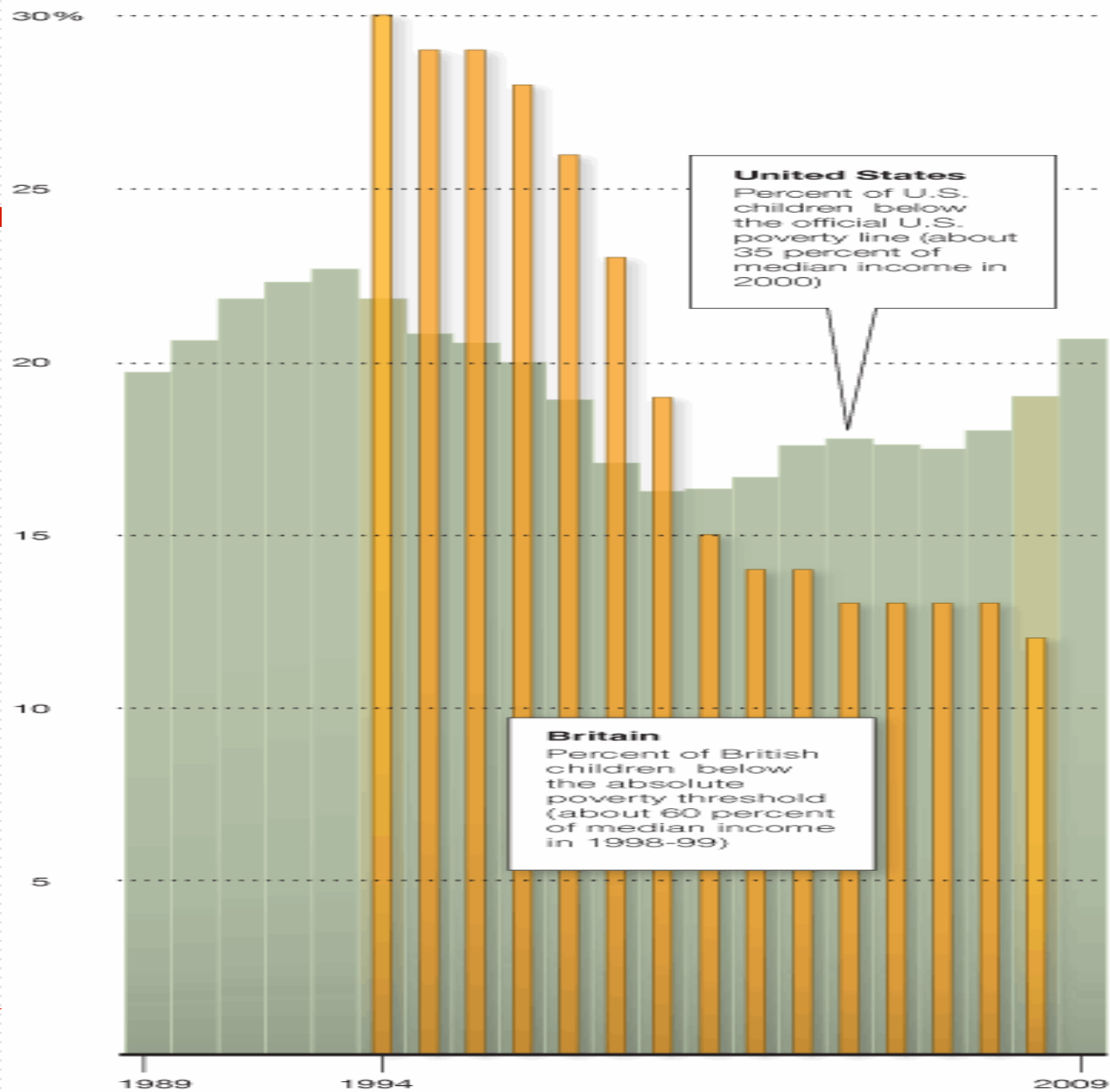
Intergenerational correlations, fathers and sons, U.S., U.K., Europe, and Scandinavia



Source: Corak, Miles. 2006. "Do Poor Children Become Poor Adults? Lessons from a Cross Country Comparison of Generational Earnings Mobility." Discussion Paper No. 1993. Bonn, Germany: Institute for the Study of Labor.

Good Trend, Bad Trend

Child poverty rates in Britain and America, using each country's official measure of absolute poverty.



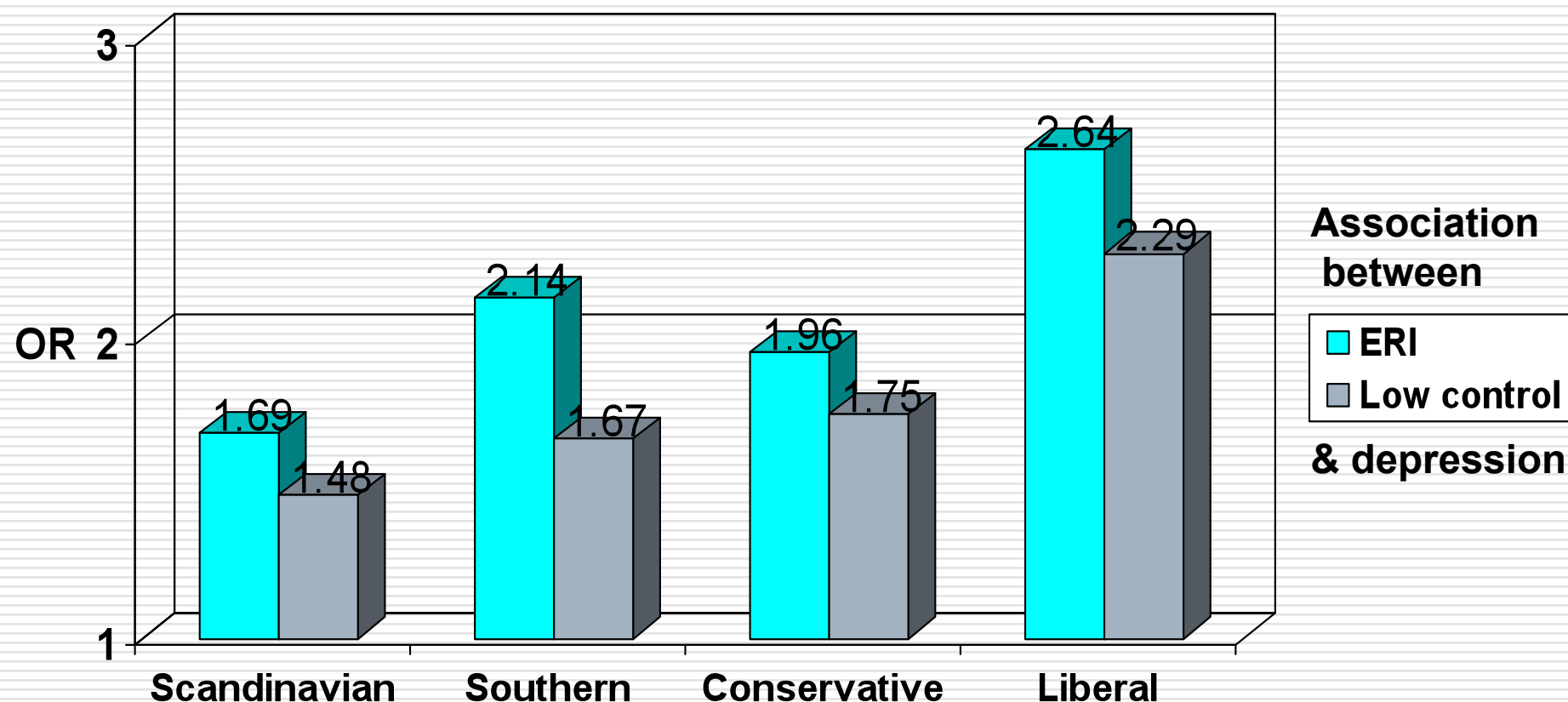
Source: "Tackling Child Poverty and Improving Child Well-Being: Lessons from Britain"

How the British did it

- ☐ Welfare-to-work program
- ☐ National minimum wage (≈\$9/hour)
- ☐ Tax reductions & credits for low-income workers.
 - Lone-parent employment: 45% to 57% (1997-2008)
- ☐ ↑ child welfare benefits, esp for families w/ small children.
- ☐ Doubled paid maternity leave
- ☐ Universal preschool
- ☐ Assisted with child care
- ☐ Allowed parents of young children to request flexible work schedules.

Association between job stressors & depression varies by type of government

(5383 men, 4534 women, age 50-64, 12 European countries, 2004)



**Efforts to reduce job stressors
in Spain:**

**legislative and activist
approaches**

Instituto Sindical de Trabajo, Ambiente y Salud (ISTAS)

- ❑ Non-profit independent foundation founded by Spain's largest labor federation "Comisiones Obreras" in 2000
- ❑ Conference on Work Organization & Health, Barcelona, 10/24-26/2007



Legal Framework:

Minimum requirements mandated by a 1989 EU directive

- ❑ Ley de Prevención de Riesgos Laborales (Spain, 1995)
 - Employer must assess occupational risks, *including work organization*
 - Priority given to collective protection measures (vs individual ones)
 - Workers & reps: right to participate in all phases of preventive process
 - ❑ Reglamento de los Servicios de Prevención
 - Risk assessment techniques must be:
 - ❑ Valid, reliable & participative
 - ❑ Directed towards prevention
-

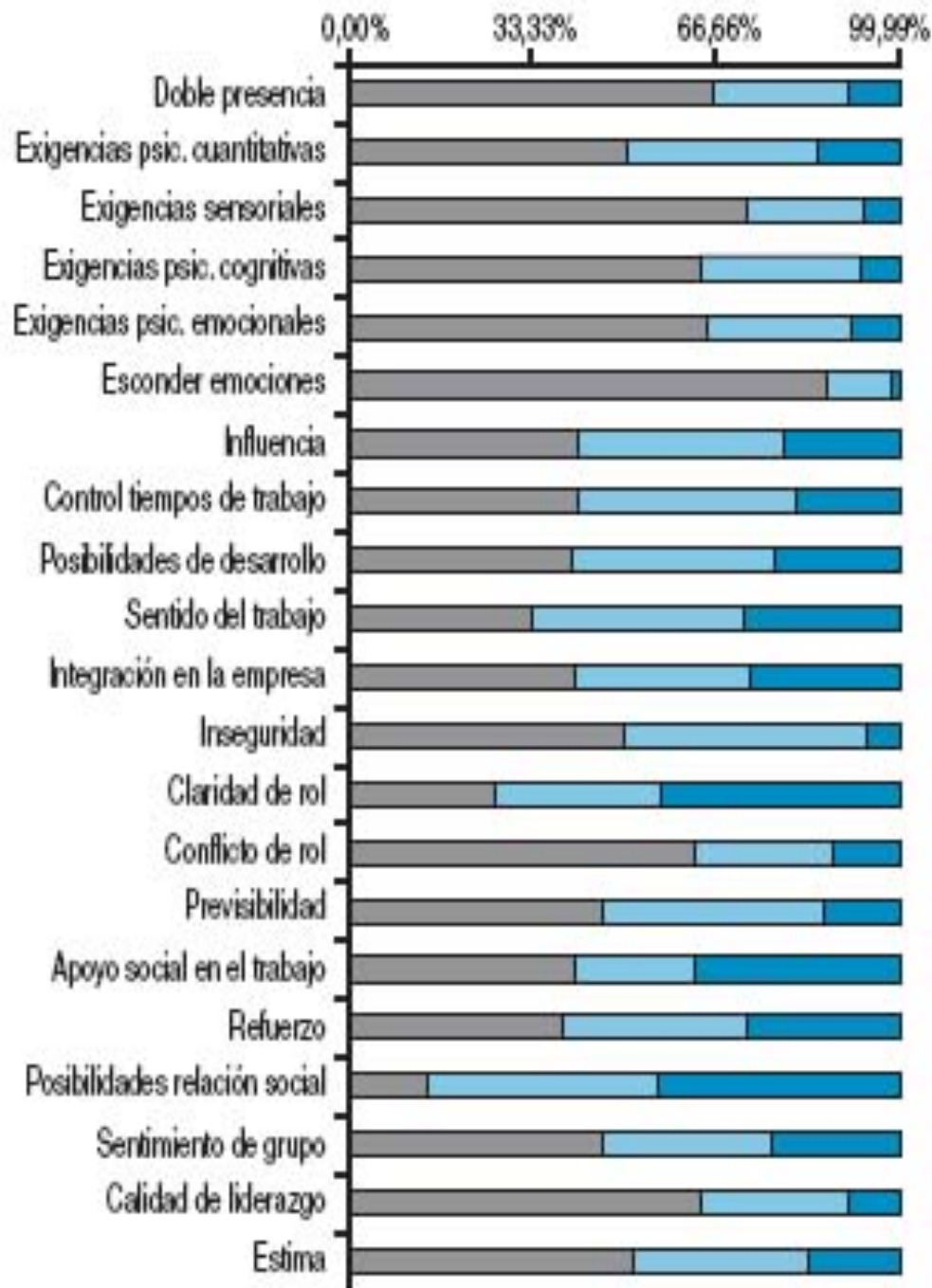
Risk assessment and prevention method

ISTAS (+ Universities, health & safety authorities, union health & safety depts) adopted:

- ❑ Action oriented intervention method
 - “officially approved” for employers to use
 - >100,000 downloads
 - >2,000 companies in most sectors using method
 - ❑ Copenhagen Psychosocial Questionnaire (CoPsoQ)
 - translated into many languages
 - 21 specific scales to measure work stressors
 - user friendly (web downloads, manuals, software, booklets...)
 - national averages available for Spain & other countries (not U.S.)
-

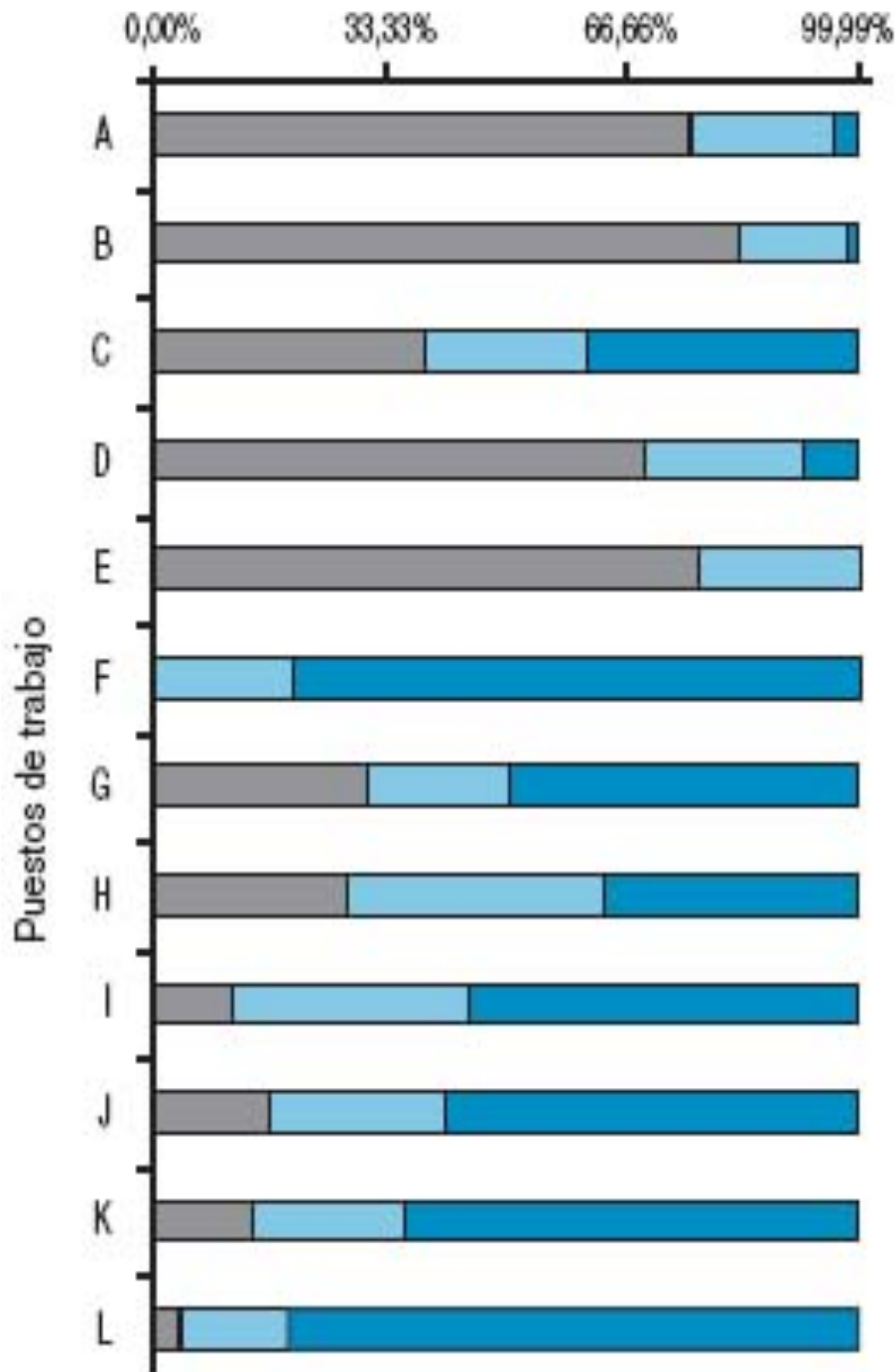
Figura 5. Dimensiones psicosociales que identifica y evalúa el CoPsoQ (istas21, psqcat21)

Versión Media	Versión Corta
Exigencias cuantitativas	Exigencias psicológicas
Exigencias cognitivas	
Exigencias emocionales	
Exigencias de esconder emociones	
Exigencias sensoriales	
Influencia en el trabajo	Trabajo activo y posibilidades de desarrollo
Posibilidades de desarrollo	
Control sobre el tiempo de trabajo	
Sentido del trabajo	
Integración en la empresa	
Previsibilidad	Apoyo social y calidad de liderazgo
Claridad de rol	
Conflicto de rol	
Calidad de liderazgo	
Refuerzo	
Apoyo social	
Posibilidades de relación social	
Sentimiento de grupo	
Inseguridad	Inseguridad
Estima	Estima
Doble presencia	Doble presencia



**Exposure to
psychosocial risks
at workplace Y.
% of workers in
each tertile of the
reference group.**

Unfavorable
Intermediate
More favorable



Exposure to “degree of freedom at work” (4-item scale) in each of 12 occupational groups at workplace Y.
(% of workers in each tertile of the reference group)

Unfavorable
Intermediate
More favorable

Conference workshops: union reps. strategy discussions

- ❑ Variation in: success & employer opposition
- ❑ Importance of issues; workers' lives improved
- ❑ Include processes/solutions in collective bargaining
- ❑ Specific improvements:
 - > worker autonomy, better social relationships, improved maintenance (food)
 - Autonomous work groups; “time bank” for personal leave in 4 hr blocks (pharmaceutical)
 - Option to work ≥ 6 hr/day (PTers), \uparrow in avg time/call & ≥ 20 sec. betw/ calls (call center)
 - Better ergonomics (lighter carts), more staffing (hotel workers)



The Spanish model for work organization assessment & action

Despite

- ❑ Progressive legislative framework
- ❑ Active labor movement w/ affiliated research institutes
- ❑ Practical, valid work organization risk assessment method

Conference speakers emphasized the need for:

- ❑ More labor (safety and health) inspections
 - ❑ More governmental research on job stress issues
 - ❑ Greater social expenditures (vs cuts in social programs)
-