

Work Organization Interventions

Paul Landsbergis

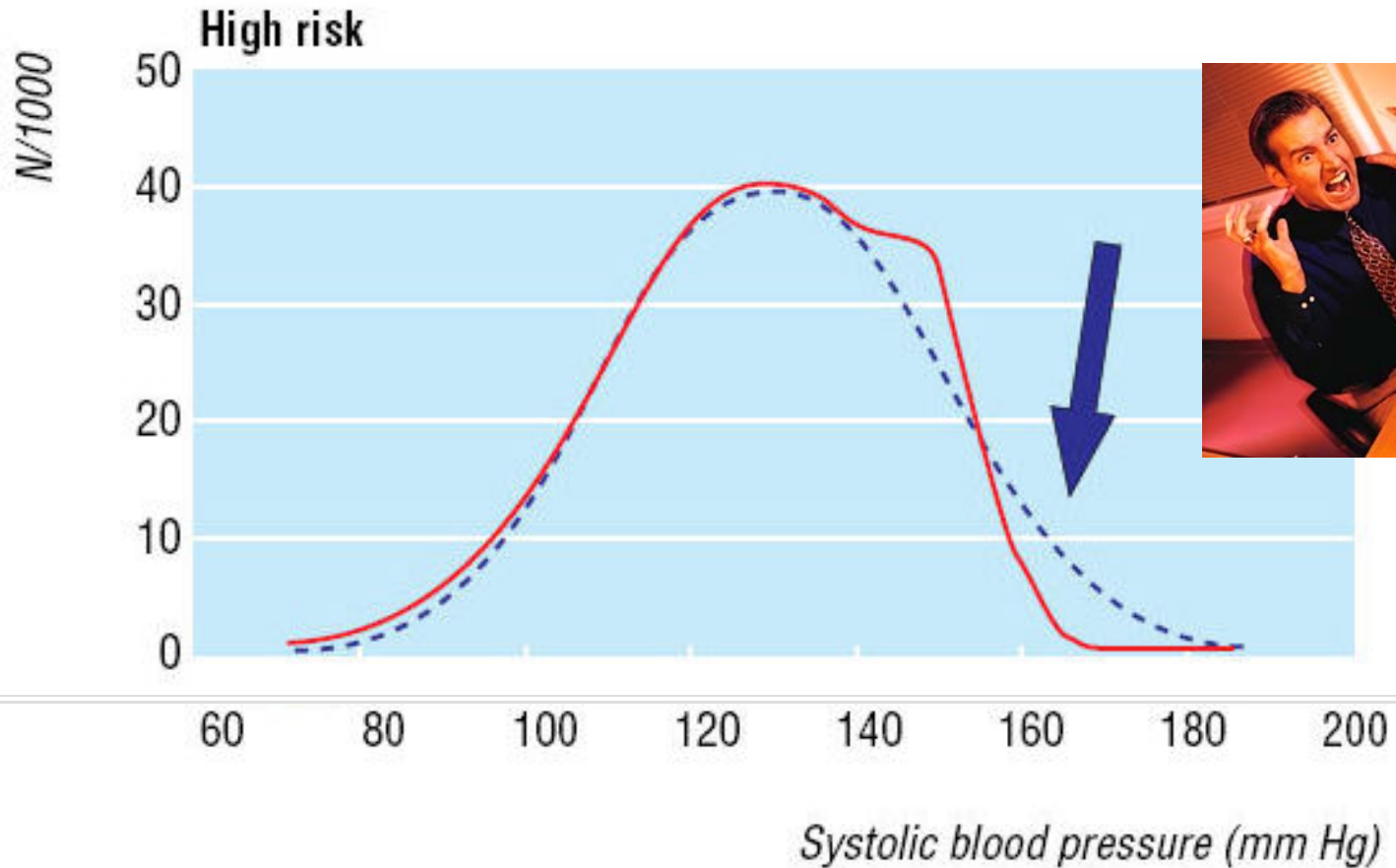
paul.landsbergis@downstate.edu

Work and Health

CHS M278/EHS M270

May 27, 2015

High risk prevention strategy



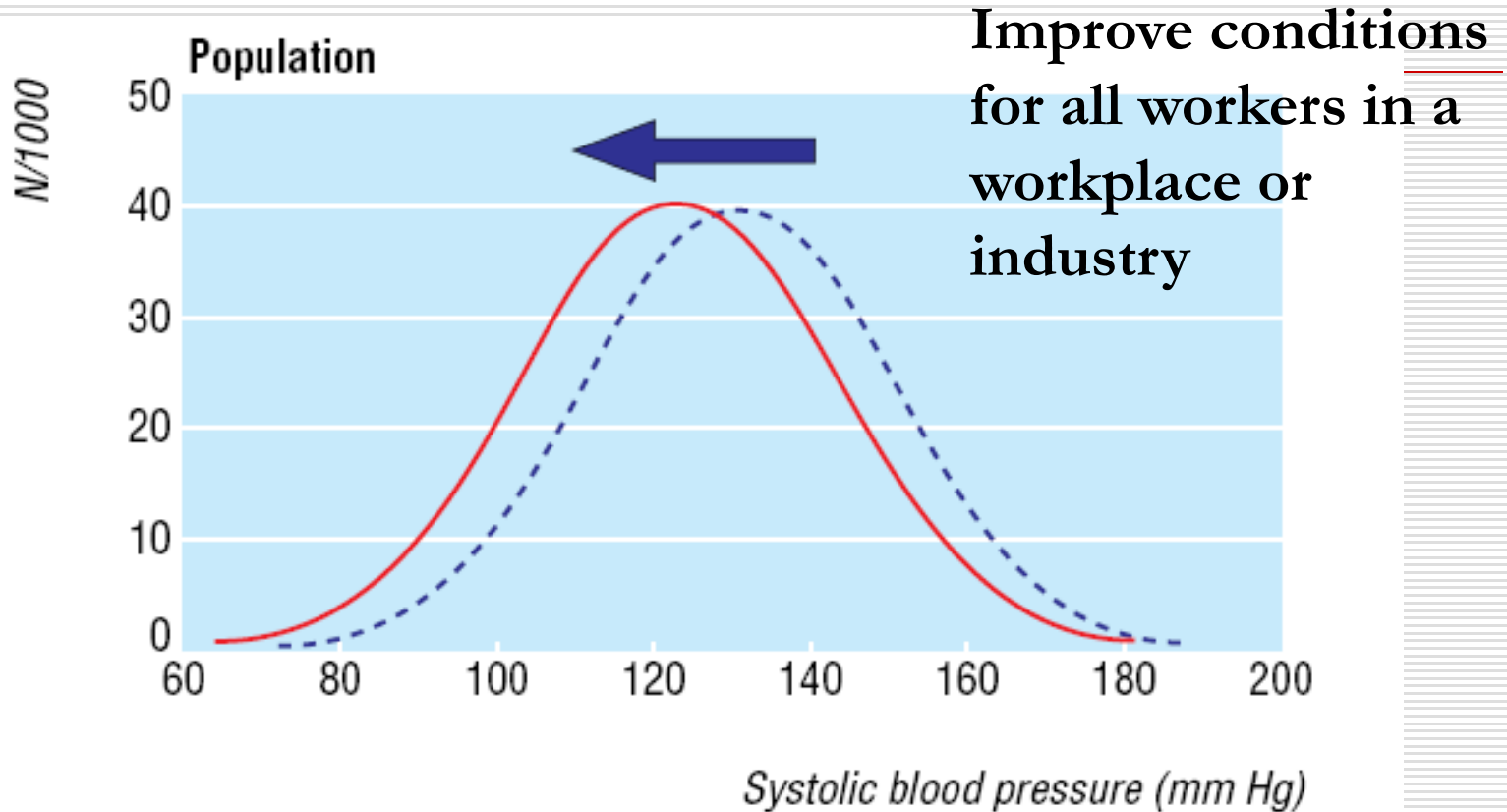
High risk interventions compared with mass population interventions: impact on an idealised population distribution or bell curve for systolic blood pressure

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
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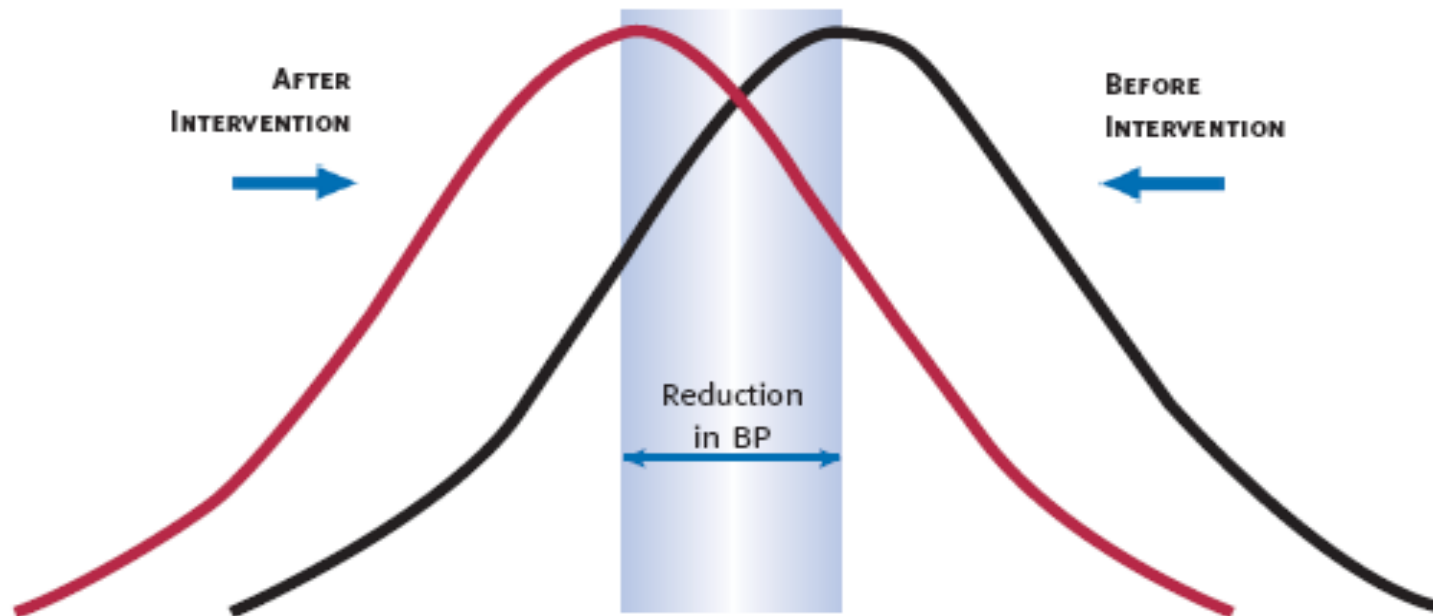
Population prevention strategy



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



Reduction in SBP mmHg	% Reduction in Mortality		
	Stroke	CHD	Total
2	-6	-4	-3
3	-8	-5	-4
5	-14	-9	-7

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 just do randomized controlled trials (RCTs)?

Is that feasible for:

- Job level psychosocial stressors**
- Organizational practices**
- Labor market, economy, politics**

Cluster RCTs

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, health promotion?

Example: Biofeedback for hypertension

- 8 randomized clinical trials reporting follow-up >6 mon:
 - 6 studies: no difference betw/ biofeedback & control group
 - 2 studies: mixed results: some positive effects

Example: Health promotion for weight loss

- Effectiveness depends on high levels of program intensity & employee participation
- Weight loss achieved often modest & difficult to sustain

Why not just do health promotion?

- Reaches only some employees - few studies of workers in
 - blue-collar, clerical jobs
 - companies with <500 employees
- Financial incentives (APHA's concern)
 - Little, mixed evidence they improve health
 - Potential to increase costs, reduce health care access
- Doesn't address root causes: unhealthy jobs/communities, discrimination, low wages, junk food industries

Interventions: what is being changed?

Primary prevention

Social change →

**Economic, political
context**



Organizational change →

Organizational context
Systems of work organization
Temporary work, downsizing
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

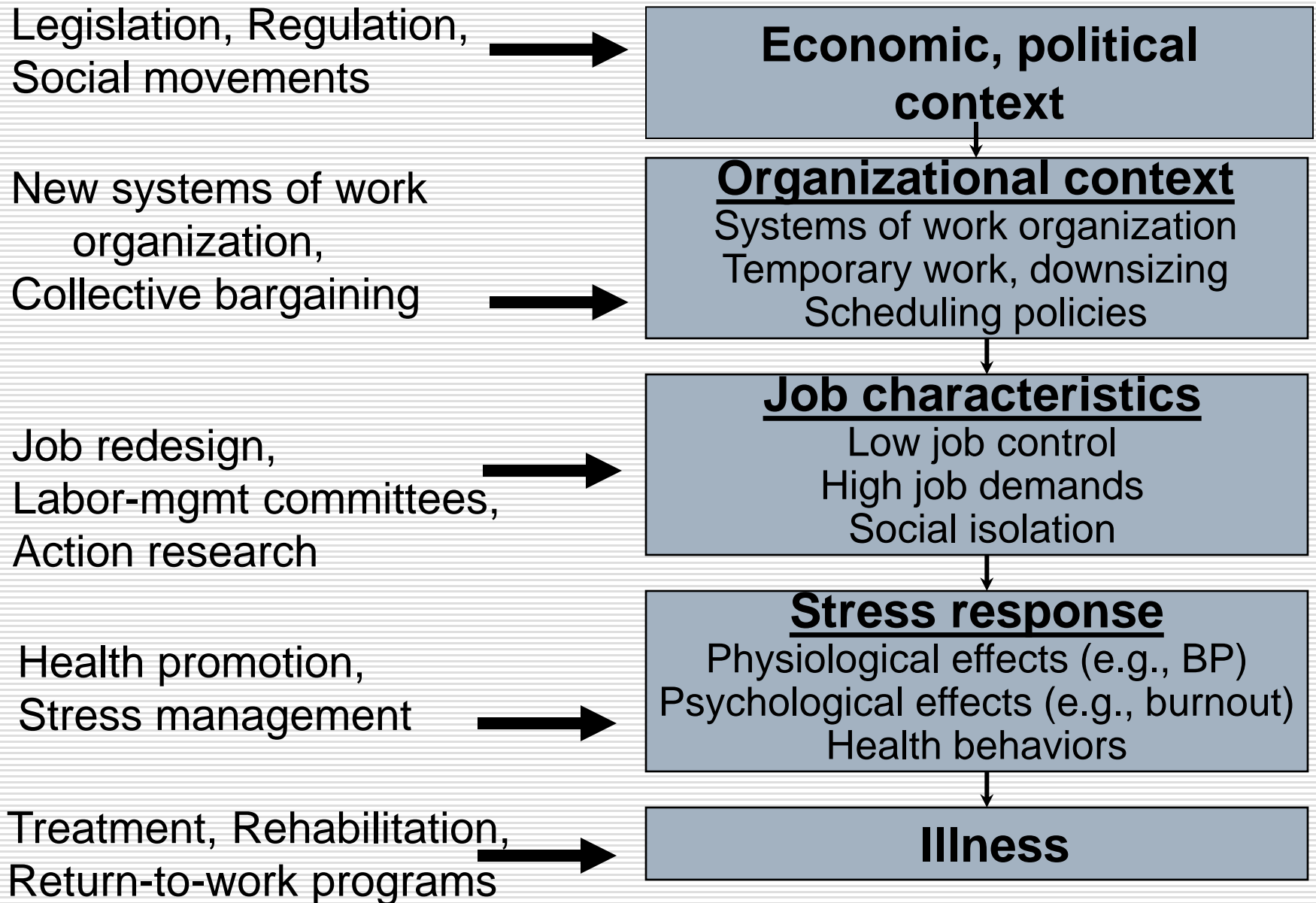


Tertiary prevention

Individual Tx, rehab →

Illness

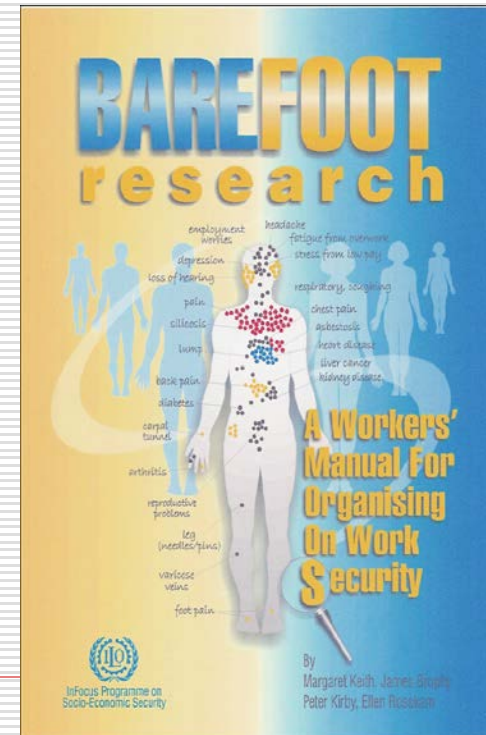
How do we go about making change?



PAR

Barefoot Research (ILO Manual)

- ❑ Practical guide for workers to:
 - ❑ Conduct their own research
 - ❑ Transform information into action to improve health and safety
- ❑ Methods
 - ❑ Surveys
 - ❑ Inspections, observations
 - ❑ Small group discussions, focus groups
 - ❑ Interviews
 - ❑ Hazard maps, body maps
- ❑ Empowering: builds workers' confidence, knowledge, ability to take action



Barefoot Research. International Labour Organization, 2002.

<http://www.ilo.org/public/english/protection/ses/info/publ/barefoot.htm#line>

Airport A "Before"



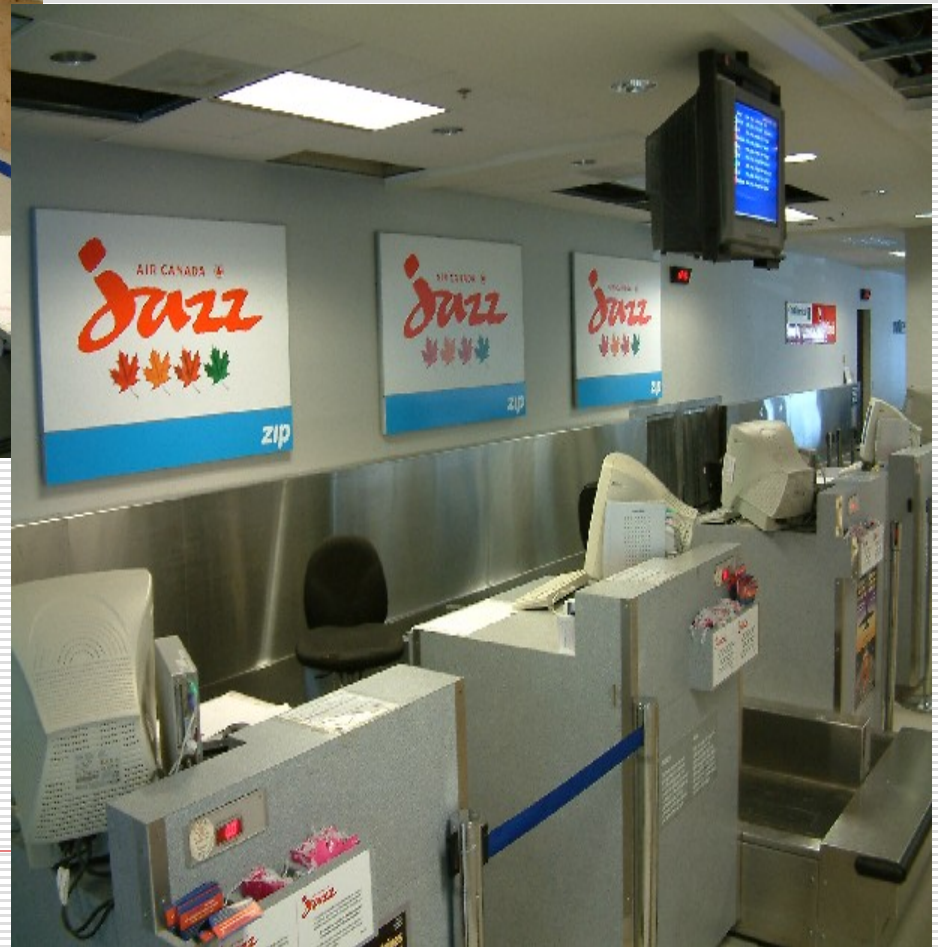
Airport A "Before"



Airport A "After"



Airport A "After"





Stressed and Fatigued on the Ground and in the Sky:

Changes from 2000 – 2007 in civil aviation workers' conditions of work

A global study of 116 countries in Africa, Asia/Pacific, Middle East, North America, Latin/South America, and Europe in the post-9/11 era

International Transport Workers' Federation,
Civil Aviation Section, London, United Kingdom, 2009

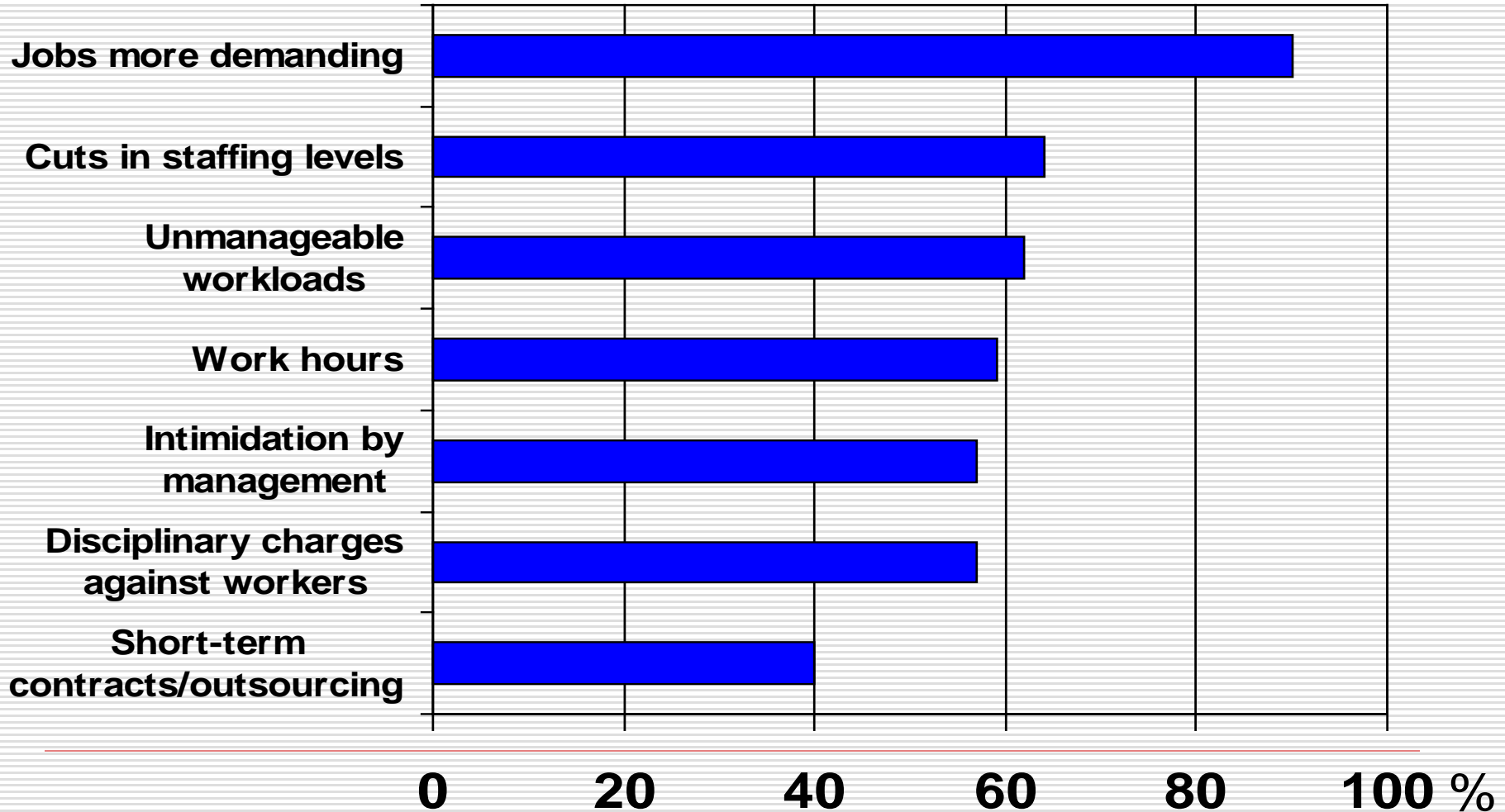
International Transport Workers Federation (ITF)

global study of
working conditions of
ground crews, cabin
crews & airport
check-in workers,
2000-2007

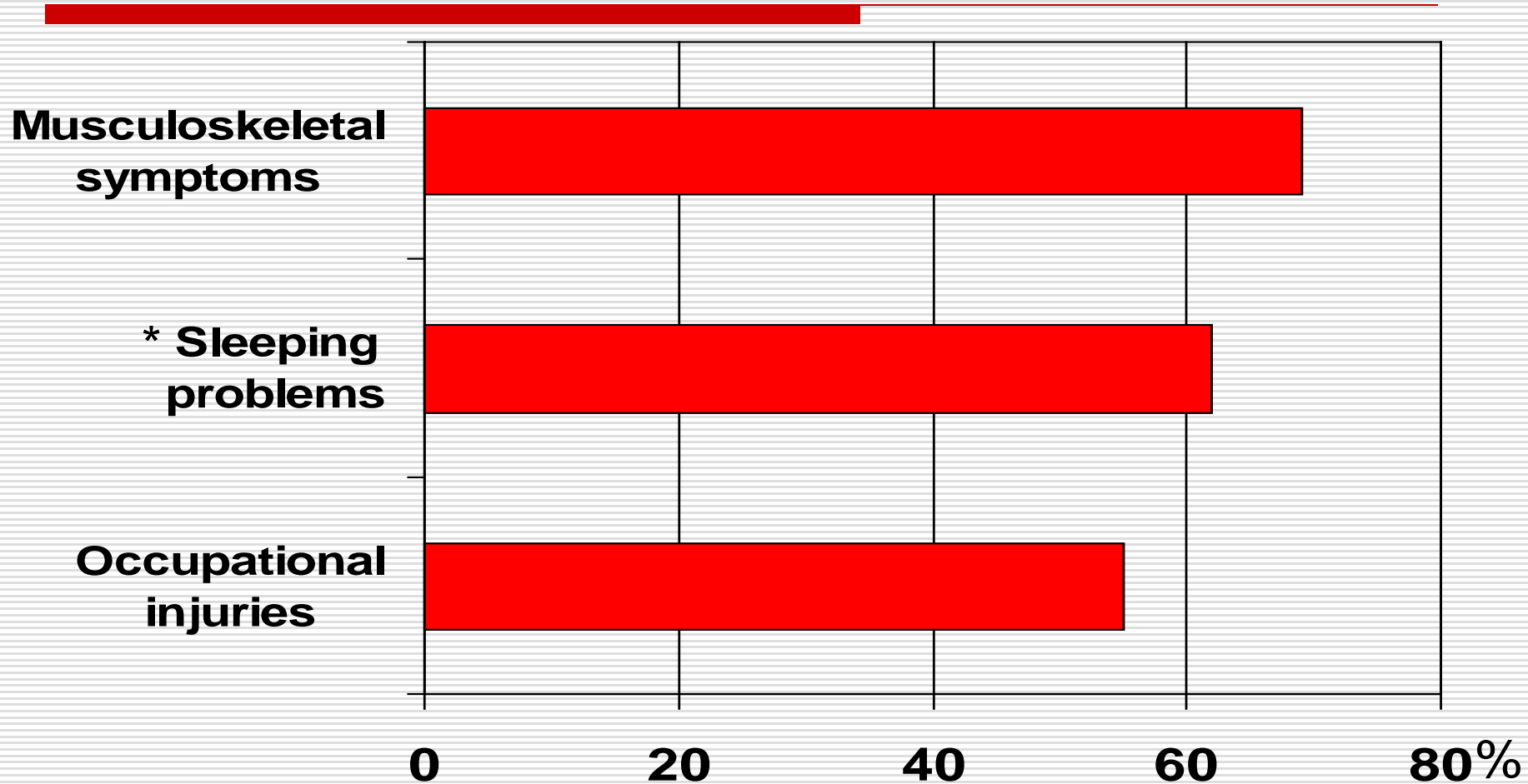
(105 surveys from
affiliates in 54 countries)

<http://www.itfglobal.org/infocentre/pubs.cfm/detail/20011>

ITF global study: *Increases in..... (2000-2007)*

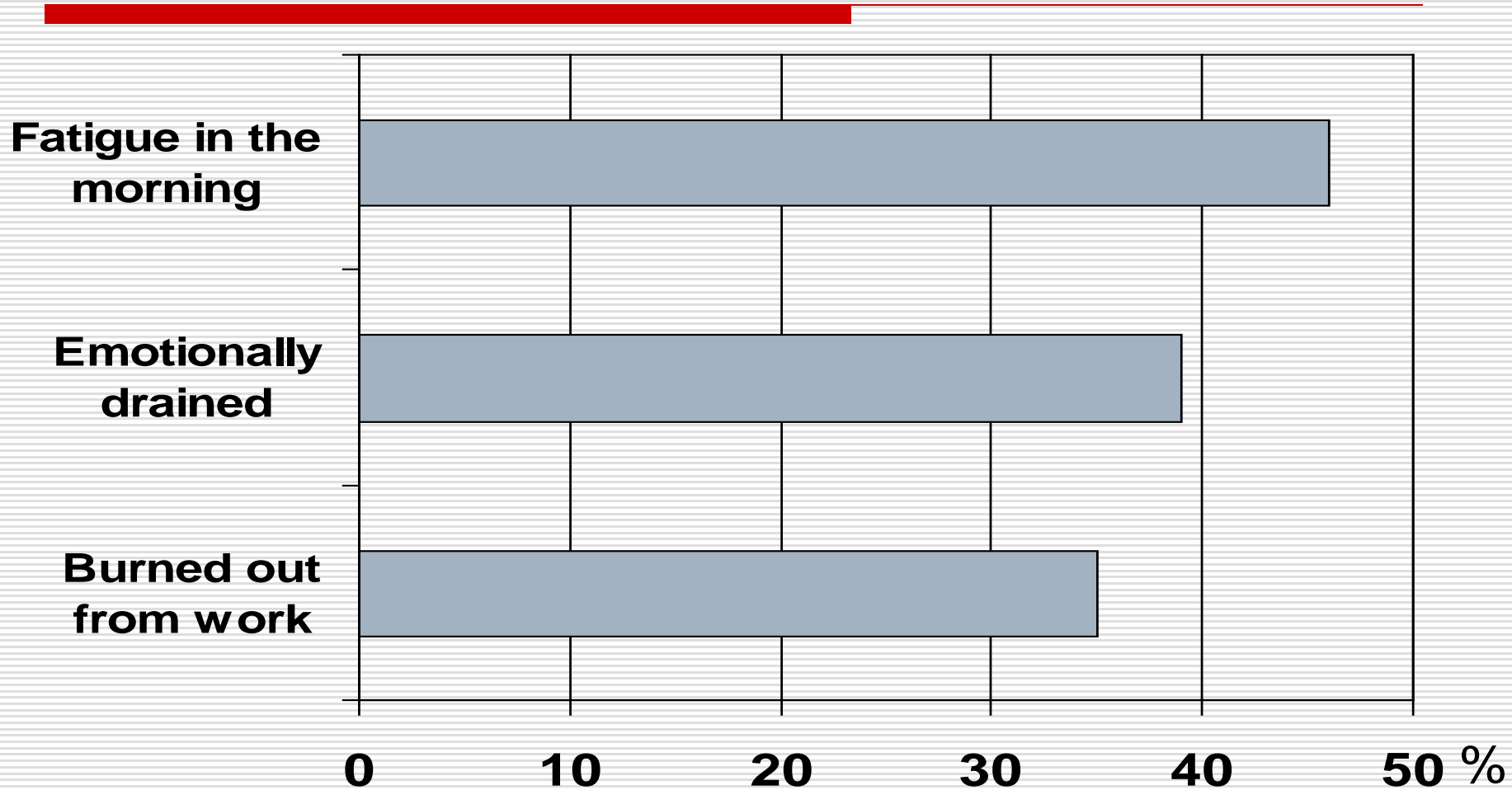


ITF global study: *Increases in..... (2000-2007)*



*for cabin crew: avg 6.5 hrs sleep/night on layovers

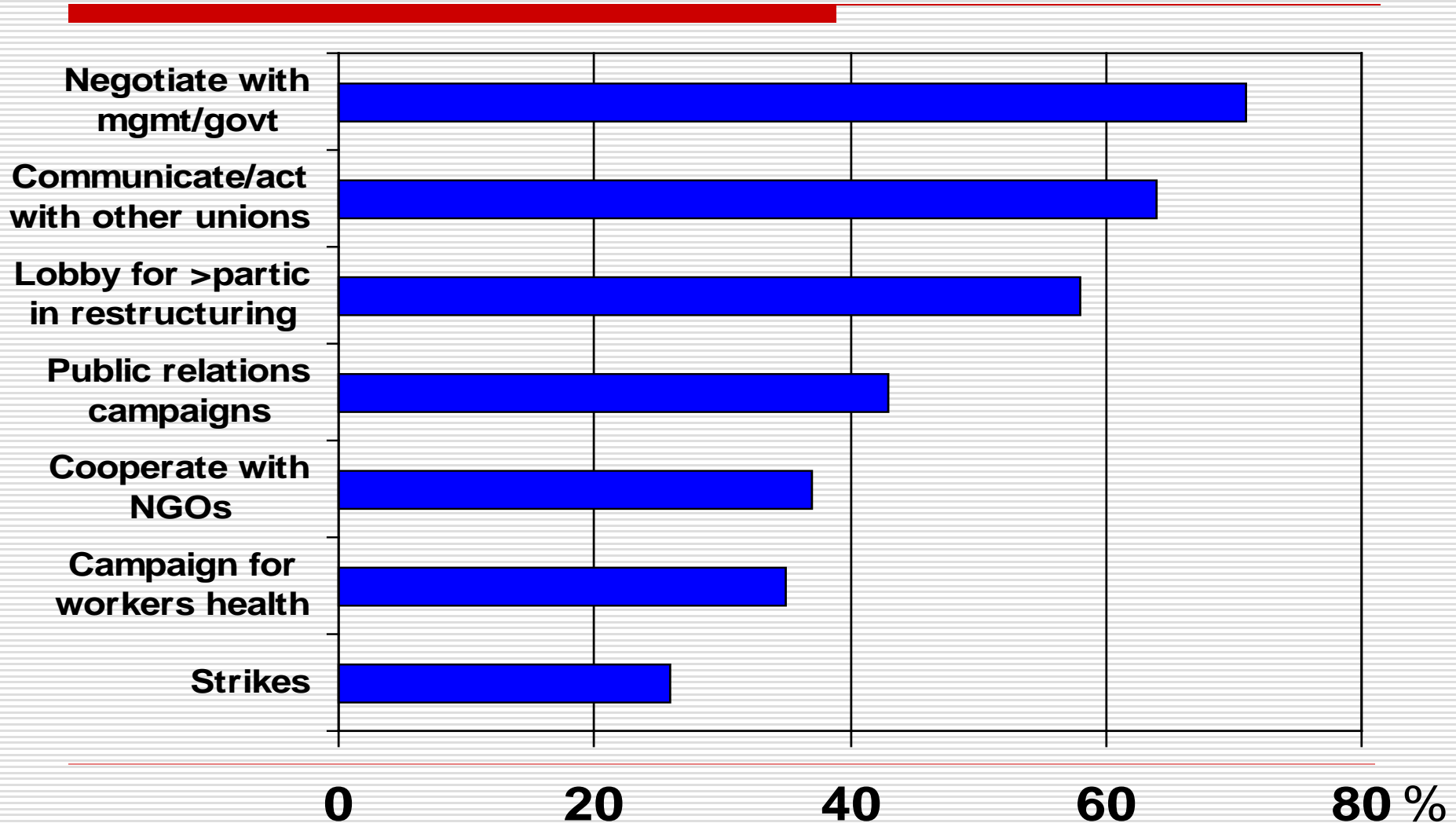
ITF global study: *Most workers feel.....*



highest levels among cabin crews

ITF global study:

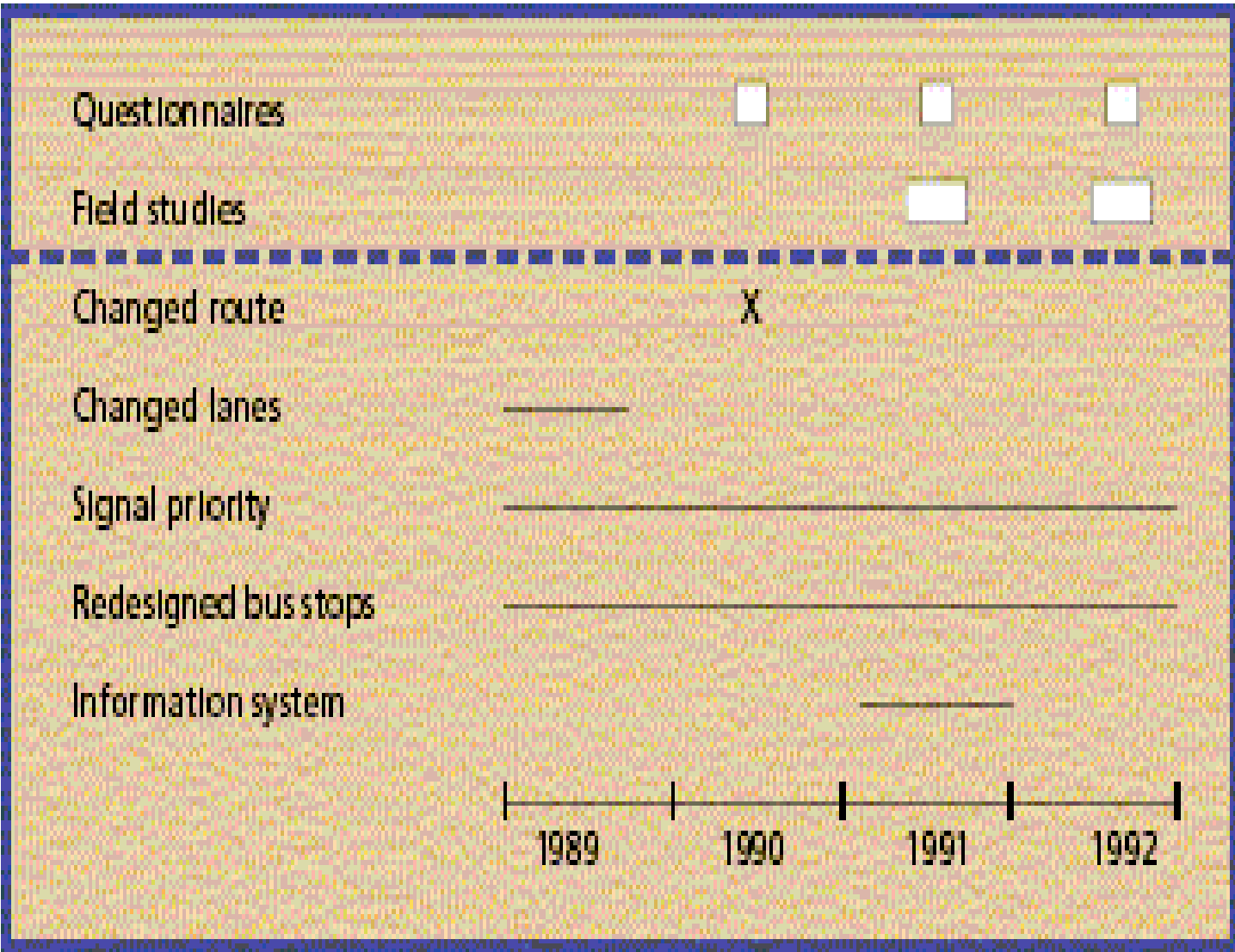
Actions against neo-liberalism/deregulation, 2000-2007



Bus drivers

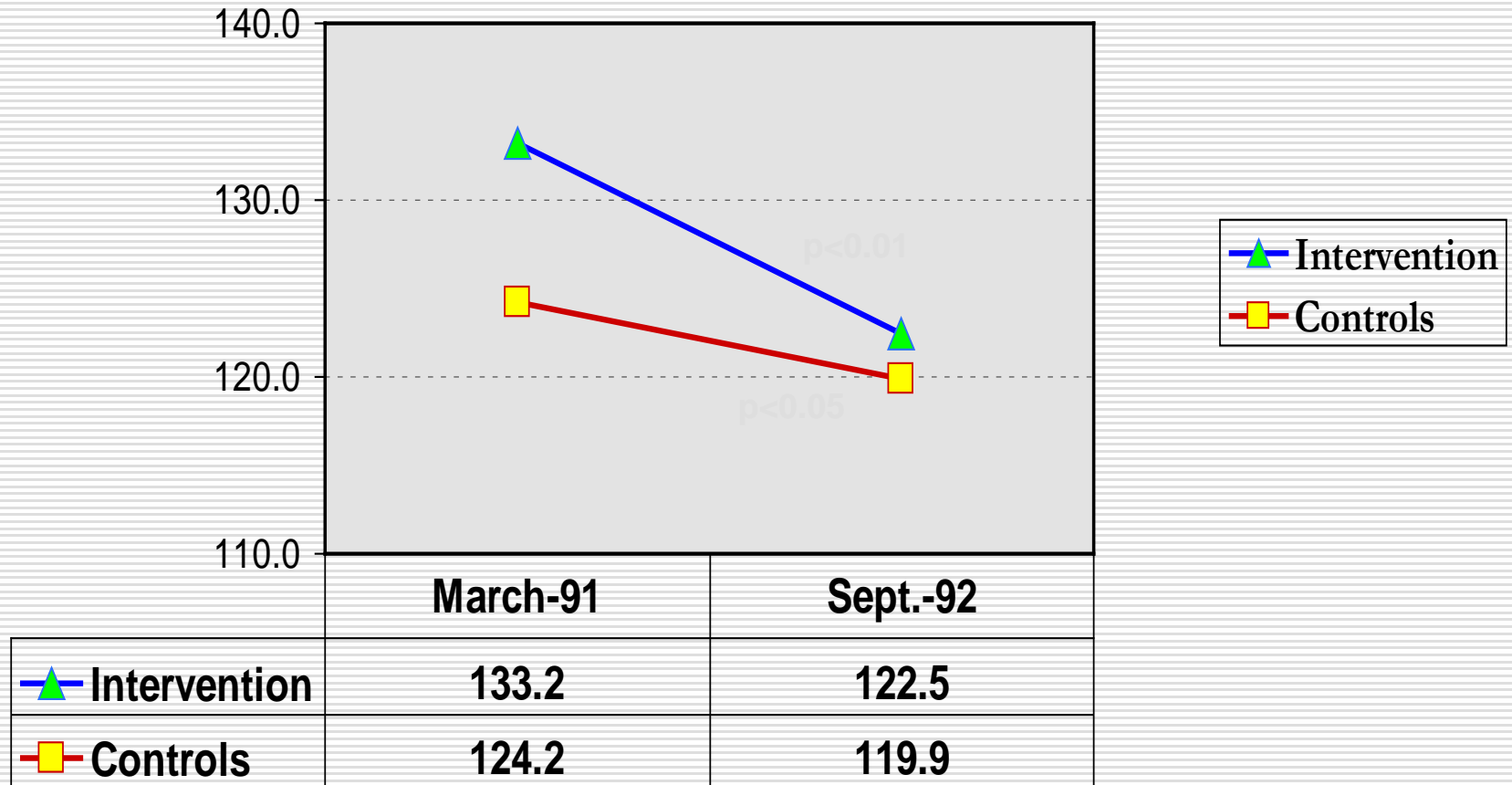
Stockholm bus drivers

- ❑ **Program initiated by municipal transit agency to:**
 - ❑ **Reduce traffic congestion**
 - ❑ **Improve passenger service**
- ❑ **During planning, interest by municipal workers union & researchers to study:**
 - ❑ **Stress and health of bus drivers**



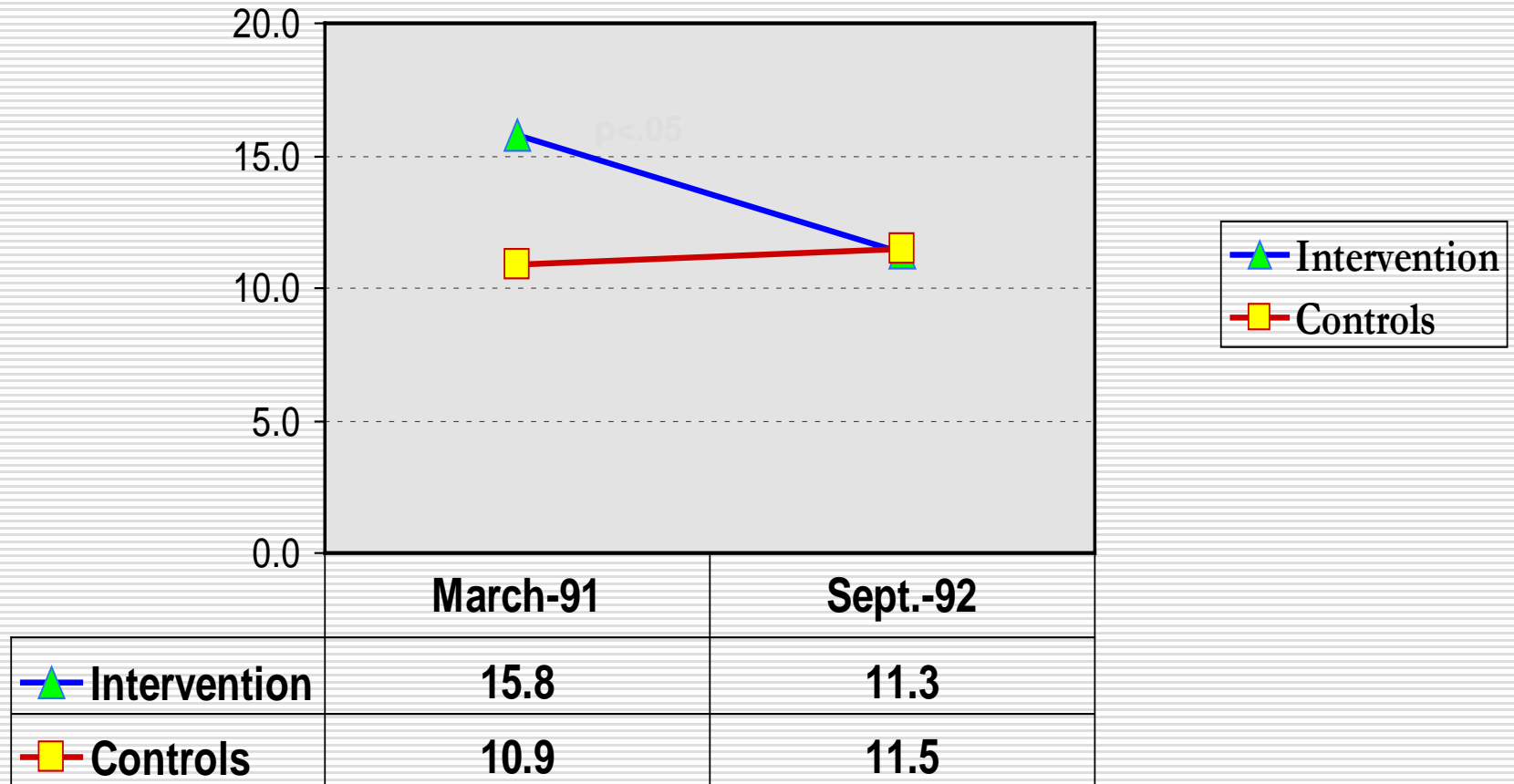
Stockholm bus drivers

Systolic blood pressure



Stockholm bus drivers

Job hassles per hour



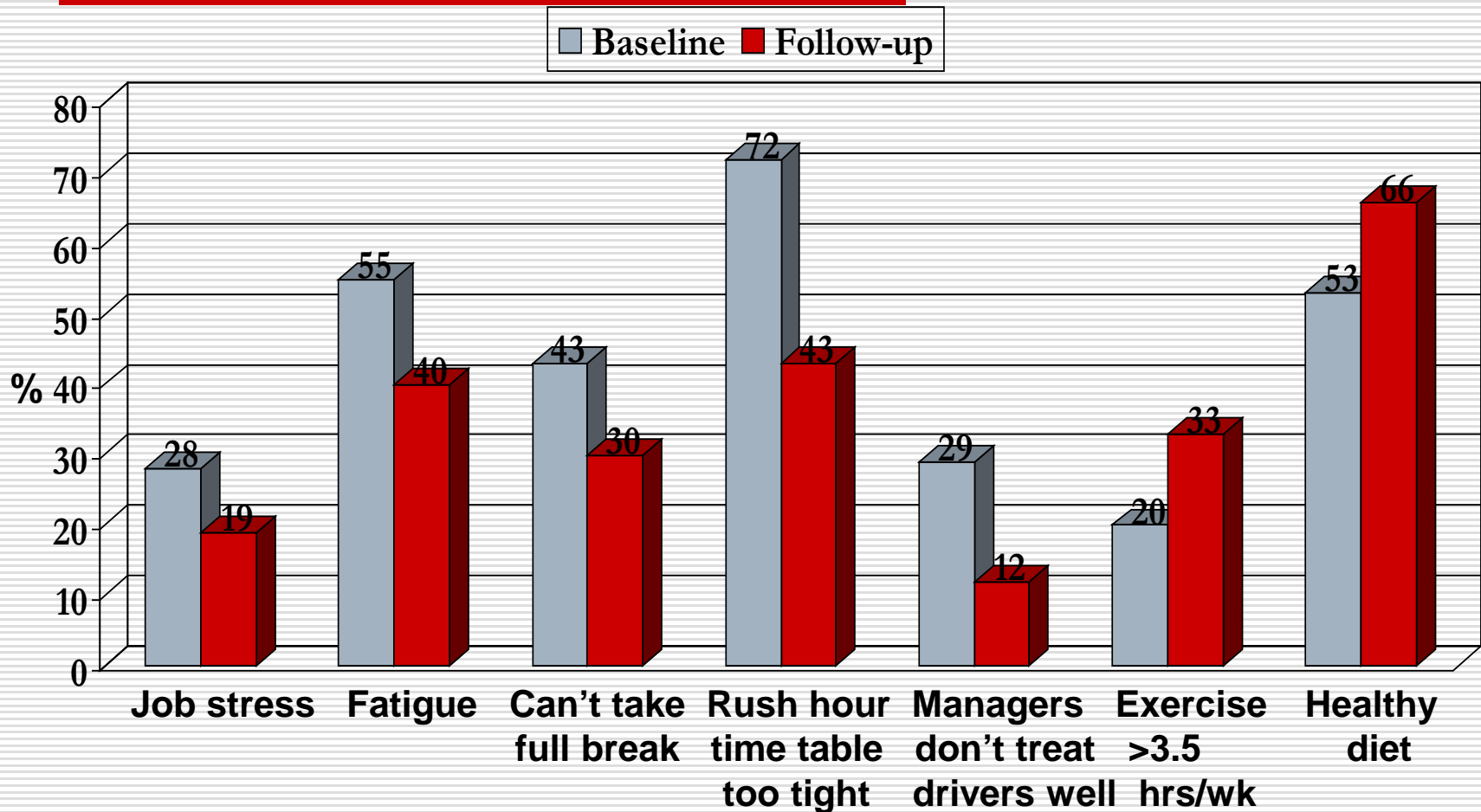
Copenhagen Healthy Bus project

- ❑ **Action research project, 1999-2004**
 - **>200 interventions to improve health, well-being & work environment of 3,500 Copenhagen bus drivers**
 - **Labor-management-researcher cooperation**

Copenhagen Healthy Bus project: intervention examples

- ❑ Job characteristics/work organization
 - Test more flexible schedules
 - Better communication between management and drivers
 - ❑ Life style
 - Smoking cessation, healthy diet courses
 - Fresh fruit available in garage
 - ❑ Competence/education
 - Education of managers in personnel mgmt and communication
 - Courses on handling threats & violence; “know your bus”
 - ❑ Physical work environment
 - More resources for bus preventive maintenance
 - Joint labor-management meetings
-

Copenhagen Healthy Bus project: changes from baseline (1999-2000) to follow-up (2003-4)



Poulsen KB, Jensen SH, Bach E, Schostak JF. Using action research to improve health and the work environment for 3500 municipal bus drivers. *Educational Action Research* 2007; 15(1): 75–106.

Los Angeles area Bus drivers



Hotel room cleaners

Participatory action research: hotel housekeepers

Pain Survey Results, UNITE HERE and Published Studies			
	UNITE HERE	Krause ('05) & Scherzer ('05)	Lee ('02)
	Boston, L.A. & Toronto	Las Vegas	San Francisco
Number of respondents	622	941	258
Have work-related pain	91%	78%	77%
Take pain medication	66%*	84%	n.a.
Visit doctor for pain	67%	62%	73%
Did not report injury to supervisor	55%**	67%	50%
Body parts most commonly affected:	lower back, shoulders	lower & upper back	n.a.

n.a. Not included in Krause's San Francisco study
 * The survey administered in L.A. did not include this question; N = 459
 ** Toronto responses excluded due to differences in workers compensation systems between the US and Ontario, Canada; N = 357

Lee PT, Krause N. The impact of a worker health study on working conditions. *J Public Health Policy* 2002;23: 268-285.
 Frumin et al., Workload-related musculoskeletal disorders among hotel housekeepers. UNITE-HERE, 2006.

Participatory action research: hotel room cleaners

- ❑ San Francisco, 1998: union initiated partnership, defined priorities
- ❑ Mostly female, immigrant, low-wage workers
- ❑ 6 focus groups (25 cleaners each)
 - Hazard risk maps
 - Body charts
 - Pilot test surveys
- ❑ Surveys after work near work, translators
 - 69% response rate
- ❑ Survey results
 - Workload increased in past 5 years
 - Race through their tasks, skip breaks
 - Constant time pressure (83%)
 - Lack of supervisor respect (40%)



Participatory action research: hotel room cleaners

□ Worker-researcher joint analysis of survey data and focus group data – to understand why:

■ Garbage (convention catalogs, brochures; take-out food)

■ Coffee pots

■ Linens (3 sheets, 4-6 pillows), towels

■ Beds (heavier, larger)

■ Reduced staff

□ To stock linen carts, change shower curtains

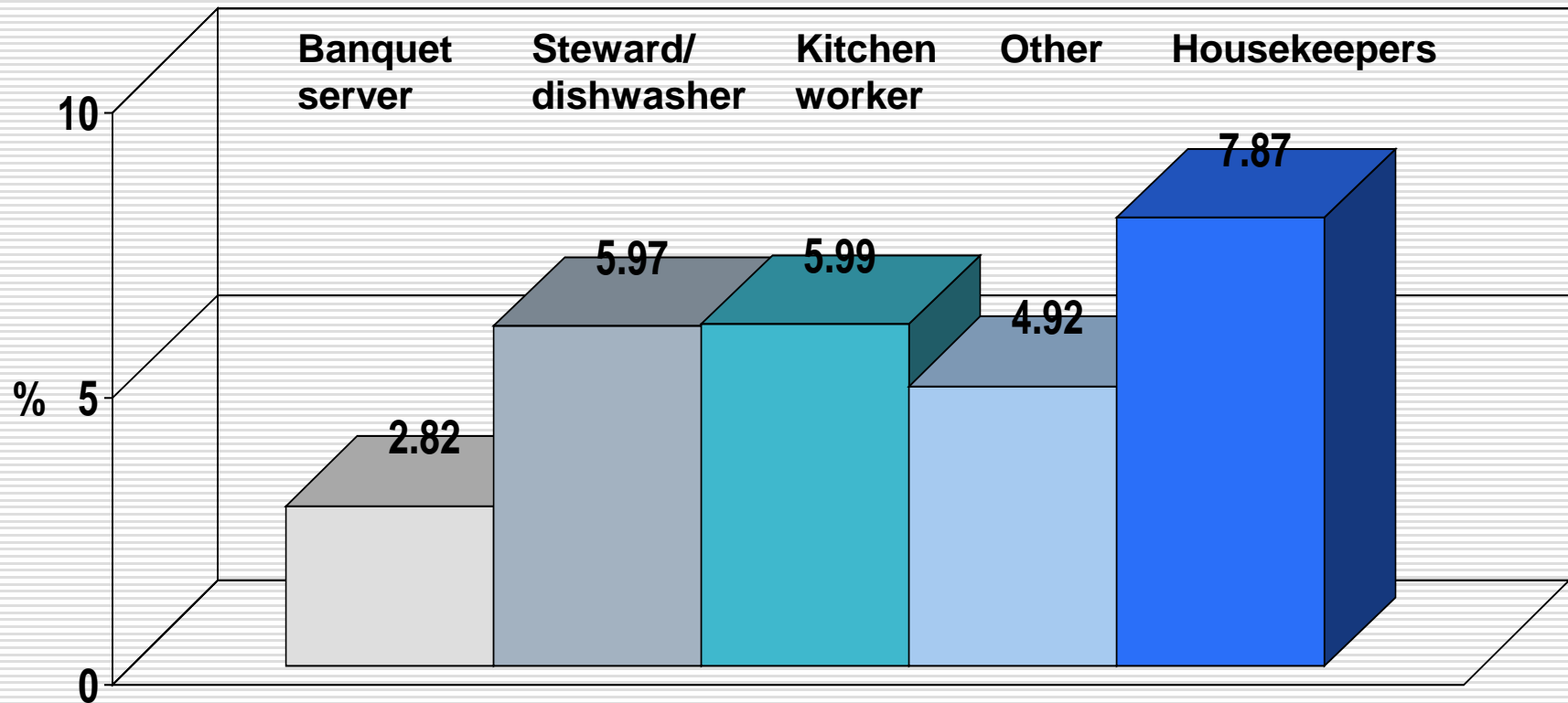
□ Researcher presented results to union-mgmt contract negotiating committee

■ 1999 contract: daily room quota from 15 → 14 or 13



Higher injury rates among hotel housekeepers

(employer-recorded injuries, 2003-2005)

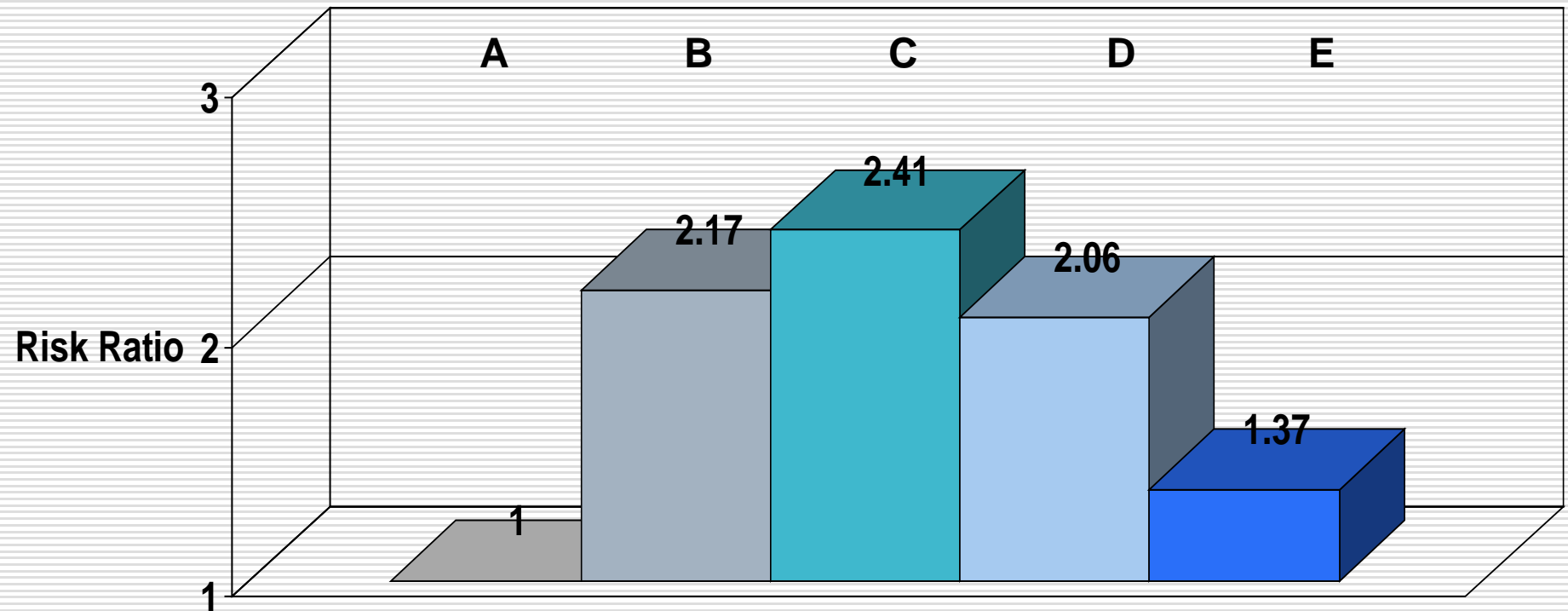


Data from 50 U.S. union hotels, total person-years = 55,327

Injury rates among female housekeepers vary dramatically by employer

(employer-recorded injuries, 2003-2005)

Company



Data from 50 U.S. union hotels, total person-years = 55,327



Hope for Housekeepers' Quilt & March, Los Angeles 2007 to bring attention to housekeeper work-related injuries

San Francisco hotel workers demanding decent wages, pensions, health care & a reduction in workload



Collective bargaining

Achieved through solidarity



California nurses demonstrate for safe staffing levels, end to mandatory overtime, political reform



San Francisco hotel workers demanding decent wages, pensions, health care & a reduction in workload

UNITE HERE contract negotiations with hotel industry: housekeeping working conditions

- ❑ 2006 contract at 4 Chicago Hilton hotels
 - Room attendants can drop 1 room from daily cleaning quota of 16 if guests checking out of at least 11 of them, can drop 2 rooms after 12 check-outs, can drop 3 rooms after 13 check-outs
- ❑ 2006 contract in NYC
 - Waldorf-Astoria: housekeepers: extra \$15/wk for work, e.g., placing bathrobes, extra pillow in each room
 - Hilton: housekeepers: lower room cleaning requirement when assigned newly renovated rooms

UNITE HERE contract negotiations with hotel industry: housekeeping working conditions

- 2010: Contracts expire for 45,000 workers in 10 cities
 - 7/22/2010: demonstrations in 15 cities
 - Hyatt targeted:
 - very profitable
 - continuing layoffs
 - replaced Boston housekeepers, 9/09, w/ min. wage workers
 - Hotel industry: 1988: 71 workers per 100 guest rooms; 2009: 53
 - Hilton (no contract since 8/2009):
 - given \$180 M in bailout
 - raise empl contrib to health insur, refuse \$ 0.12/hr pension
 - housekeepers pushed to clean 40% more rooms
 - union struck in SF, Chi, Honolulu, 10/13-16/2010

Hotel worker update

- ❑ Vancouver Hilton workers ratify new contract, 11/17/11
- ❑ Housekeepers:
 - better access to supplies & equipment
 - fewer floors to travel to daily
 - fair assignment of work
 - no new duties assigned without Union's consent
- ❑ Support during contract campaign from customers, politicians, community organizations



Hospital workers

Participatory action research: Quebec hospital

- Risk assessment using employee surveys to measure
 - work stressors (Job Content & Effort-Reward Imbalance surveys)
 - psychological distress
- Qualitative assessment
 - interviews with key informants
- Development of an intervention team
 - 2 researchers, 1 RA, 3 head nurses, 3 RNs, 1 nurses' aide, 1 reception clerk, 1 rep from HR & 1 from nursing, 2 local union reps
- Feedback to management, employees and unions
 - comparison of measures of work stressors and psychological distress to provincial averages
 - qualitative findings: 56 adverse work conditions and recommended solutions

Participatory action research: Quebec hospital

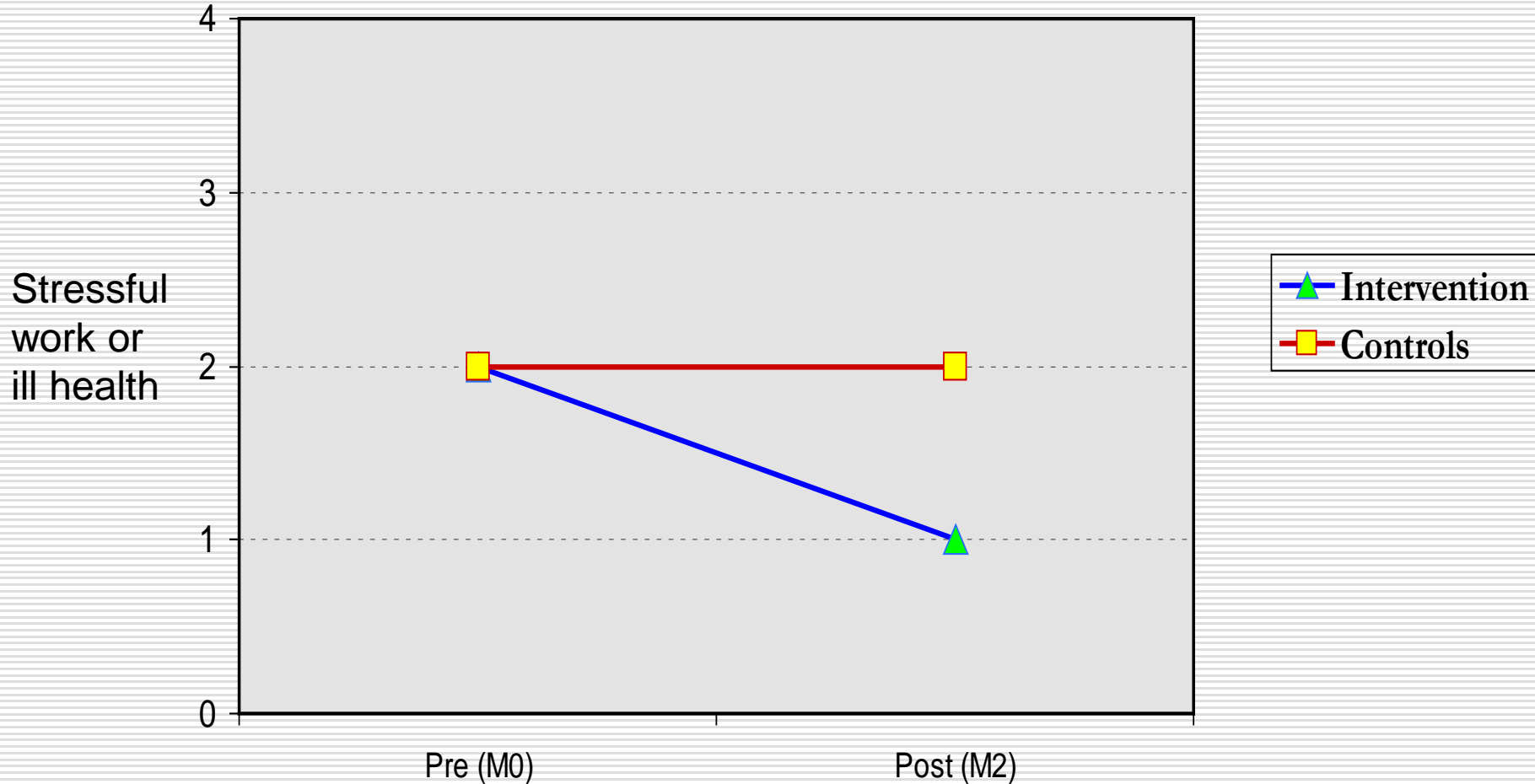
Examples:

- Consultation with nurses on staffing, training plan, schedule
- Ergonomic improvements
- Improve team communication, support
- Task rotation between nurses & aides
- Job enrichment, training for nurses' aides
- Reduce delays in filling open staff positions (nurses, clerks)
- Better guidance, training of new staff
- Discuss with doctors that nurses' work is taken for granted

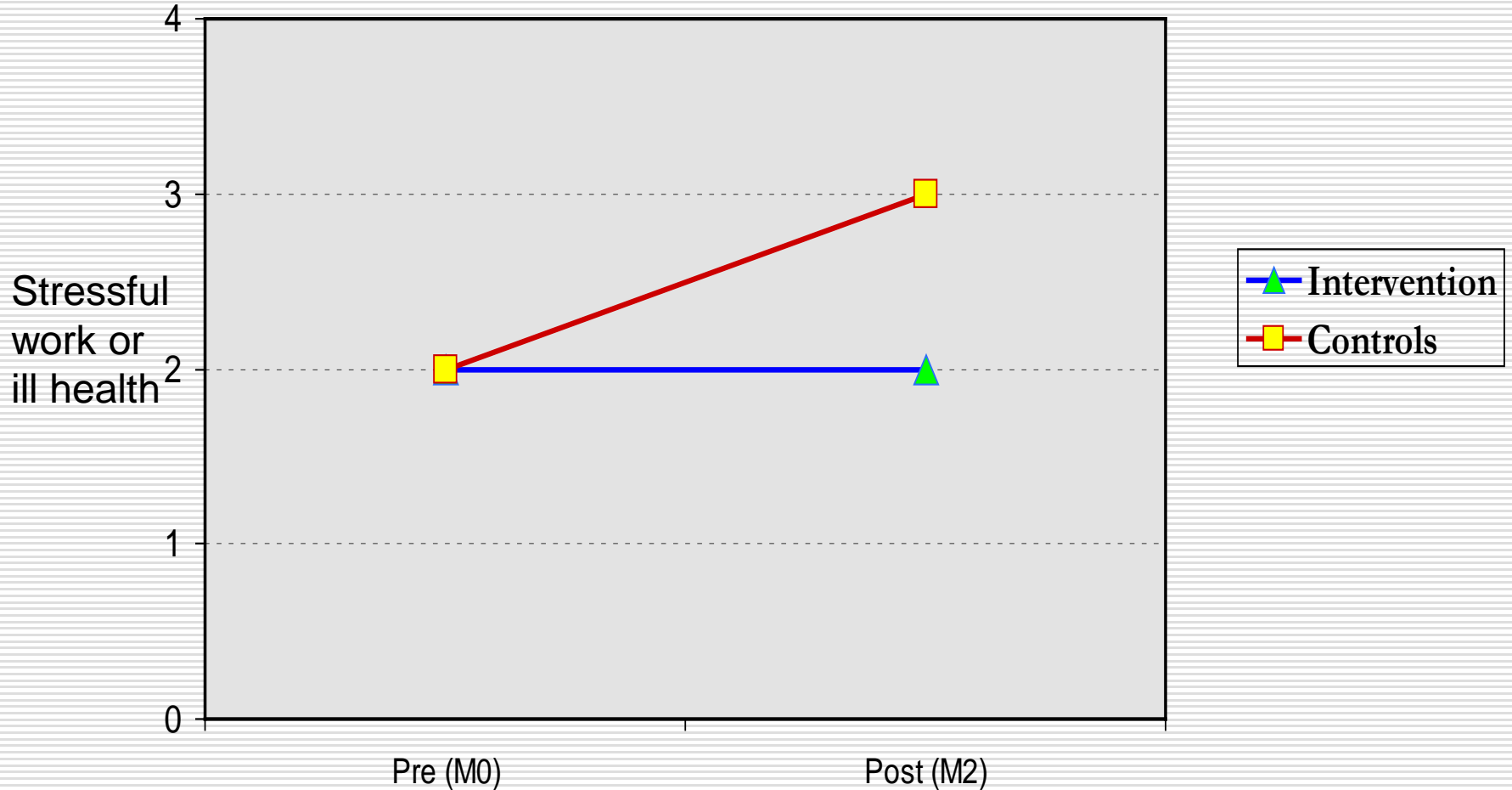
3 year follow-up results: Intervention (vs. Control) hospital

Greater reductions	Greater improvements	No difference
<u>Job characteristics</u>		
Psychological demands	Decision latitude	Co-worker support
Physical demands	Supervisor support	Emotional demands
Effort-reward imbalance	Reward	
	Work quality	
<u>Health outcomes</u>		
Psychological distress		Sleeping problems
Burnout		

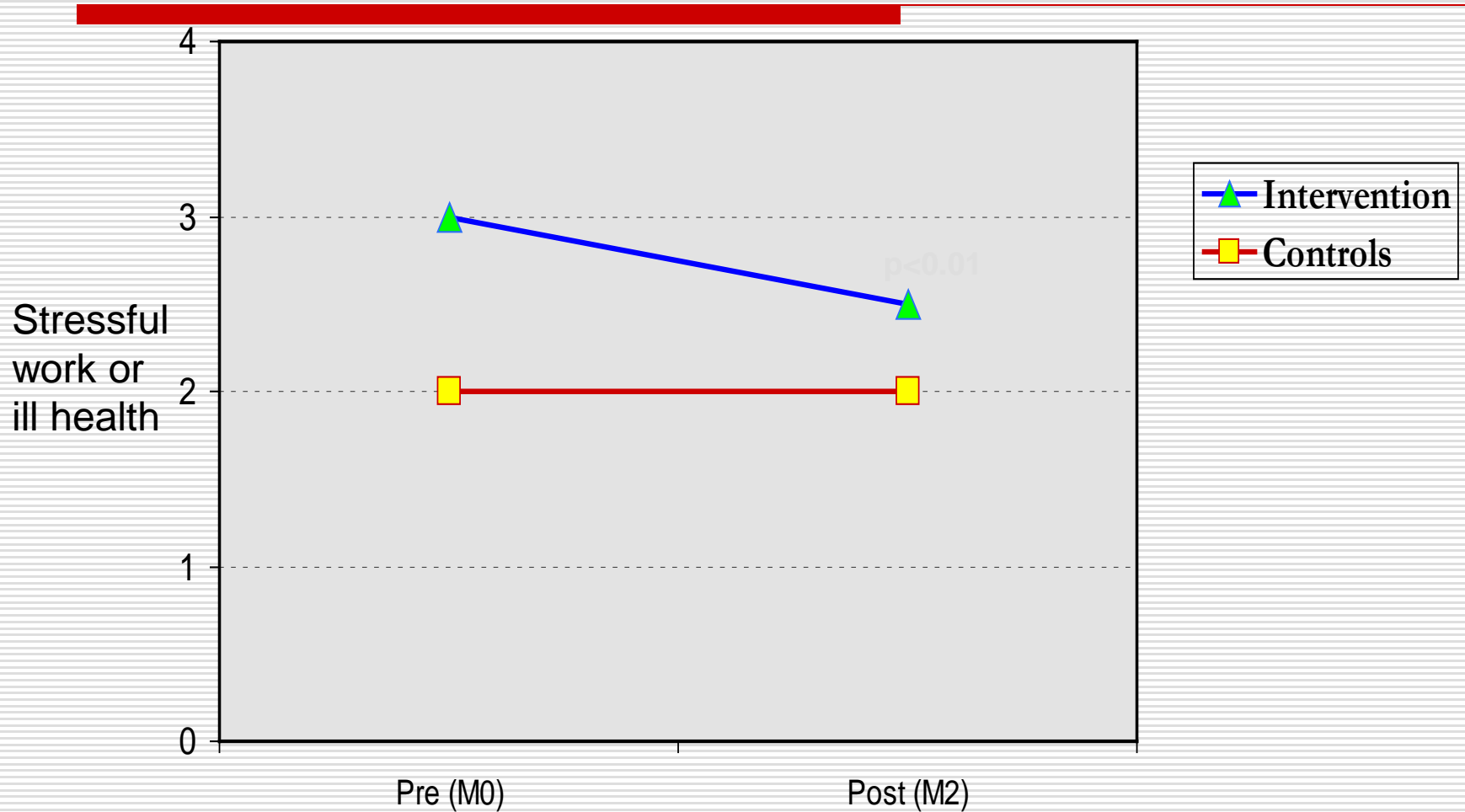
Randomized controlled trial (RCT): The ideal experimental (intervention) study



Randoized controlled trial (RCT): The ideal experimental (intervention) study



Quasi-experimental (intervention) study (not randomized)



Restaurant workers

BURNED

High Risks and Low Benefits for Workers in the New York City Restaurant Industry

– SEPTEMBER 11, 2009 –



Restaurant Opportunities Center:

Education,
research and
advocacy for low-
wage restaurant
workers since
2001



By the Restaurant Opportunities Center of New York, the Restaurant Opportunities Centers United, the New York City Restaurant Health and Safety Taskforce, and the New York City Restaurant Industry Coalition



Restaurant Opportunities Center

- 1) Won \$5 million in unpaid wages/discrimination thru workplace justice campaigns against exploitative high-profile restaurants
- 2) NY state minimum wage increase for tipped workers
- 3) Lobbying for paid sick days for all New York City employees
- 4) Cooperatively-owned restaurant
- 5) Promotes 'high-road' restaurant owners that pay & treat workers well
- 6) Job training
- 7) Research (on the restaurant industry)
 - a) Behind the Kitchen Door: inequality
 - b) The Great Service Divide: discrimination & occupational segregation

Burned: High Risks and Low Benefits for Workers in the New York City Restaurant Industry

- ❑ 500 surveys, 10 focus groups of workers (66% foreign born), 40 employer interviews & ergonomic assessments
 - ❑ Time pressure, O/T, physical demands, toxic chemicals
 - ❑ High prevalence of burns, cuts, MSD Sx, fatigue
 - ❑ Few have health insurance, paid sick days
 - ❑ Owner: “We [the restaurant industry] single-handedly keep New York sick during the winter months because we don’t take days off...We’re passing on all the illnesses to the customers.”
 - ❑ F/u: Nationwide safety/ergonomics training
 - Rights under OSHA, NLRB, workers’ comp
 - Organizing around health & safety
-

ROC Ergonomics Training Materials

(pdfs available free on-line)

- Staying Safe at the Restaurant is No Accident: Employee Manual (18 pages)
- Keeping the Restaurant Safe is No Accident: Employer Manual (34 pages)
- Ergonomics Train-the-Trainer Program for Restaurant Promoters: Manual (141 pages)
- ROC Employee Manual -- Spanish (32 pages)

SERVING WHILE SICK

High Risks & Low Benefits for the Nation's Restaurant Workforce, and Their Impact on the Consumer (Sept. 2010)

- ❑ National survey of restaurant workers (4323 respondents)
 - 88% reported not receiving paid sick days
 - 63% reported cooking and serving food while sick
 - 90% reported not receiving health insurance through their employer
 - 49.5% reported being cut on the job
 - 45.8% reported being burned on the job

ROC: WORKPLACE JUSTICE

- ❑ Won 13 campaigns against exploitation in high-profile restaurant companies, organizing >400 workers, winning >\$7 million in financial settlements & improvements in policies:
 - grievance procedures
 - raises
 - sick days
 - sexual harassment/anti-discrimination policies
 - job security
- ❑ Andiamo Restaurant Group in Detroit, MI
- ❑ Fireman Hospitality Group
- ❑ Smith & Wollensky Restaurant Group

State and local laws related to control of working time:

- **paid family leave**
 - **sick leave**
 - **limits on mandatory overtime**
 - **prohibiting misclassification as “independent contractors”**
-

Comparison of U.S. to other countries

- ❑ 168 countries offer guaranteed paid pregnancy leave to women
- ❑ 137 countries mandate paid annual leave (vacation)
- ❑ 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)
- ❑ 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

Can be achieved through collective bargaining or legislation

- ❑ Paid family & medical leave (vs FMLA)
- ❑ Paid sick leave
 - Infants more likely to have MD visits & immunizations when parents have paid leave
 - Canada: employment insurance program: 50 weeks of maternal + paternal leave
- ❑ Bans on mandatory overtime for nurses

<http://familyvaluesatwork.org/>

<http://www.iwpr.org/initiatives/family-leave-paid-sick-days>

<http://www.jsonline.com/news/opinion/affordable-family-leave-its-about-time-b99299595z1-265016521.html>

<http://www.nursingworld.org/MainMenuCategories/Policy-Advocacy/State/Legislative-Agenda-Reports/MandatoryOvertime/Mandatory-Overtime-Summary-of-State-Approaches.html>

California's Independent Contractor Law (2011)

- ❑ Employers often improperly classify employees as independent contractors to avoid paying:
 - payroll taxes, minimum wage, overtime
 - providing meal periods & rest breaks
 - reimburse workers for business expenses
 - workers' compensation, unemployment, disability insurance
 - or social security
- ❑ 2011 law adds fines for willful misclassification
 - \$5,000-25,000
 - liability for consultants (excluding practicing lawyers) who advise employers on such independent contractor arrangements
 - if guilty, a prominent public notice must be posted for 1 year on a website or worksite reciting the misclassification.

Battle over working time

- ❑ Involuntary P/T becoming new norm for low-wage workers
 - + unpredictable & varying schedules so one can't easily get another job, go to school, or be a reliable parent
 - 41% of mid 20s-early 30s workers get sched \leq 1 week in advance
- ❑ Retail Action Project organizing
 - Zara announced 12/15/14: more FT jobs, \$1-3/hr raise
- ❑ Legislation:
 - National: Schedules That Work Act (Miller; Warren, Harkin)
 - Bills in 12 states
 - Living-wage rule: Santa Clara County workers + scheduling guidelines
 - SF Retail Workers Bill of Rights: penalties for large companies that rely on part-time, on-call labor.

Battle over working time

- ❑ Domestic Workers Bill of Rights; Home care workers (FLSA)
- ❑ Union organizing by Fast Food & Wal-Mart workers, taxi drivers, port truckers, car washers, Fed Ex freight truck drivers
- ❑ Worker centers fighting wage theft & misclassification
- ❑ International efforts
 - govern global supply chains
 - protests against austerity, deregulation and privatization
 - China: campaigns for free association & collective bargaining
- ❑ Some victories
 - UPS won't discharge pregnant workers, rather accommodations
 - Costco, Neiman Marcus, Nordstrom: no work on Thanksgiving

Battle over working time

- Motivations
 - Better wages & schedules
 - Growing % of women in labor force
 - New technology: tool for autonomy or no control?

Collective bargaining

Collective bargaining on job safety & health & work organization

- ❑ Long hours, shiftwork, staffing, job control, chemicals, ergonomics, safety, childcare, sick leave, family leave
- ❑ Nurses: voluntary O/T, minimum staffing levels, safer needles, workplace violence prevention (MNA)
- ❑ Teachers: staffing, class size (CTU), class size caps (LA)
- ❑ Workplace bullying (RU admins, SEIU/NAGE, CTU)
- ❑ Labor-mgmt committee to oversee well program (CTU)
- ❑ How electronic monitoring is done; data used
- ❑ Limits to lean production in auto manufacturing
 - Future: bargain over lean health care, new public mgmt
- ❑ Hotel housekeepers: daily room quota (UNITE-HERE)

Retail Workers Fight 'Just in Time' Scheduling

Retail Wholesale and Department Store Union Local 1-S, Macy's, Local 3, Bloomingdales:

will be able to choose preferred hours of work, setting their own schedules & vacation time ... choose one weekend off a month and their late-night shifts.



Murphy Institute at City University of New York and the Retail Action Project 2011
<http://womensenews.org/story/equal-payfair-wage/121109/retail-workers-fight-just-in-time-scheduling#.UKOr24awVv9>

Changes after FORWARD study during collective bargaining (Orange County firefighters, January 2015)

- **Union & management agree to “cap” O/T at 15 shifts/month max**
 - **Change to 48 hr on-duty & 96 hr off-duty (from a Kelly Schedule)**
 - **Health impacts unclear**
 - **Collaborative intervention research ongoing**
-

Oil refinery workers strike over outsourcing, short staffing, forced overtime



- ❑ 1000s went on strike on 2/1/15 at 9 refineries nationwide
- ❑ Staffing had been reduced by attrition
- ❑ “The fatigue issue has been a very big problem in this industry.... These companies are trying to run very lean.”
- ❑ Safety risk – for workers and nearby communities

Oil refinery workers strike over outsourcing, short staffing, forced overtime



- ❑ Another key safety issue: maintenance work, originally done by union members, now being contracted out.
- ❑ Full-time employees receive health & safety training from both company & union.
 - Lower-paid, outsourced workers do not.

United Steelworkers Reach Tentative Agreement with Shell

(3/12/15)

- Immediate review of staffing & workload assessments
 - USW safety personnel involved at every facility
- Joint local review of maintenance/repair worker staffing needs
 - Hiring plans to be developed in conjunction with recruitment & training programs
- Next steps
 - Review settlement agreement at all local Shell bargaining tables
 - Expect other refinery employers to offer same terms
 - Members vote on approved settlement agreements

Systems of work organization

Systems of work organization

Reforms of Taylorism

- ❑ Lean production (Japanese production management)
 - Total quality management, Quality circles
- ❑ Team concept, Modular manufacturing
- ❑ Reengineering, restructuring
- ❑ High-performance work organizations
- ❑ Socio-technical systems
 - Self-directed worker teams (control pace, content)
 - Longer cycle time
 - More flexible work organization

Physiological benefit of a more flexible work organization

Swedish auto assembly-line workers

(36 men, 29 women)

Compared traditional assembly-line to:

More flexible work organization

- **Socio-technical systems design**
- **Self-directed worker teams**

Epinephrine excretion

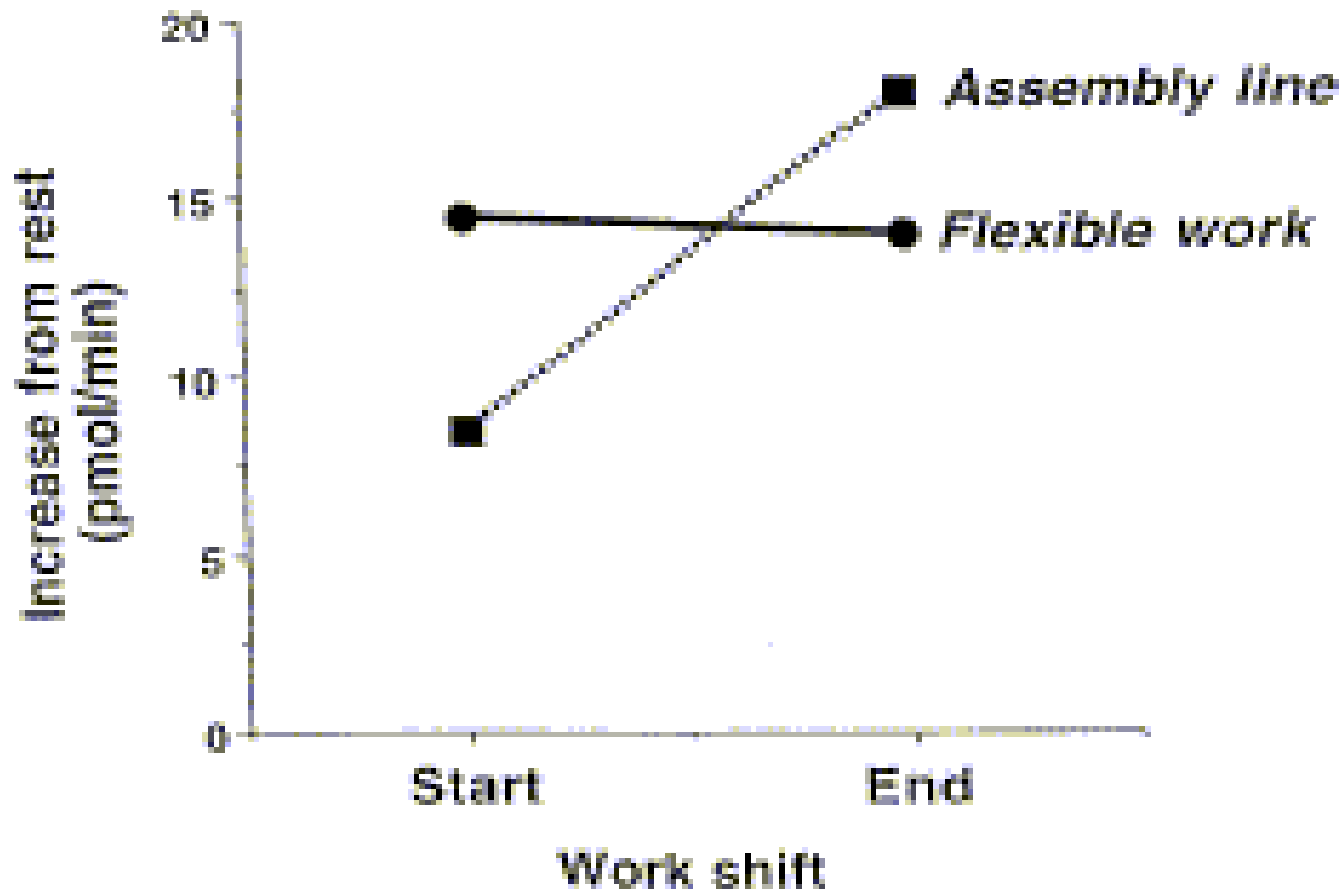


Figure 5. Epinephrine excretion during work at the assembly line and the flexible form of work organization



**Relief man, passing,
relief man, passing!**

Unwinding after work

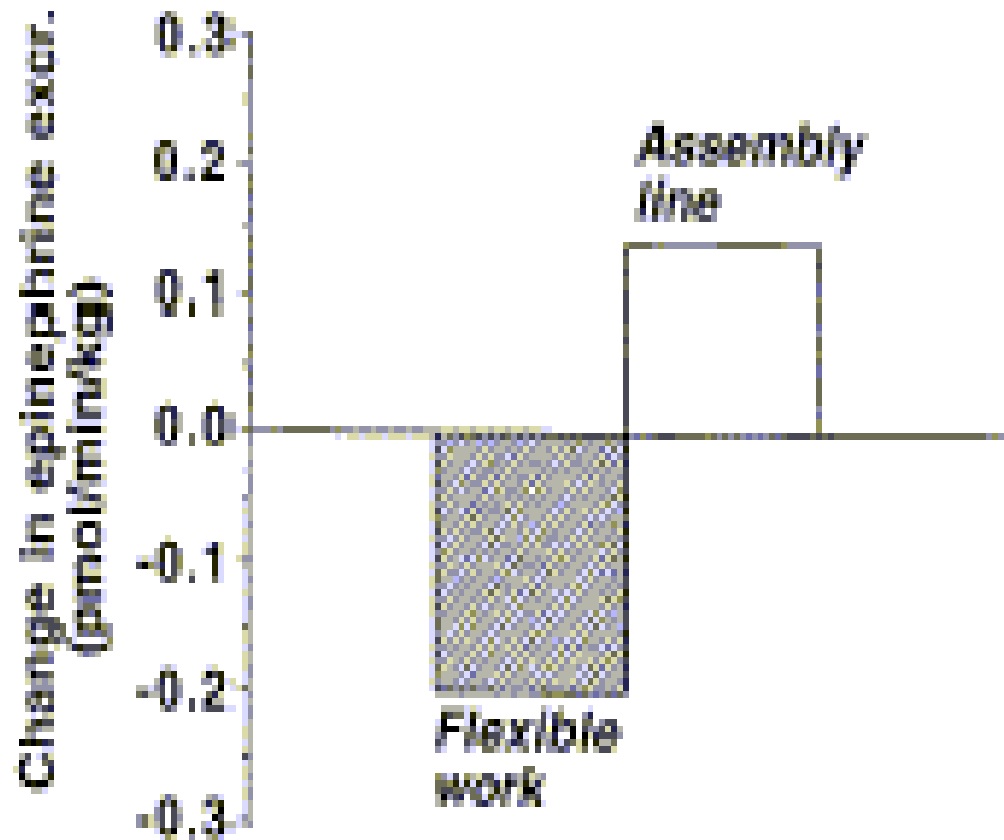
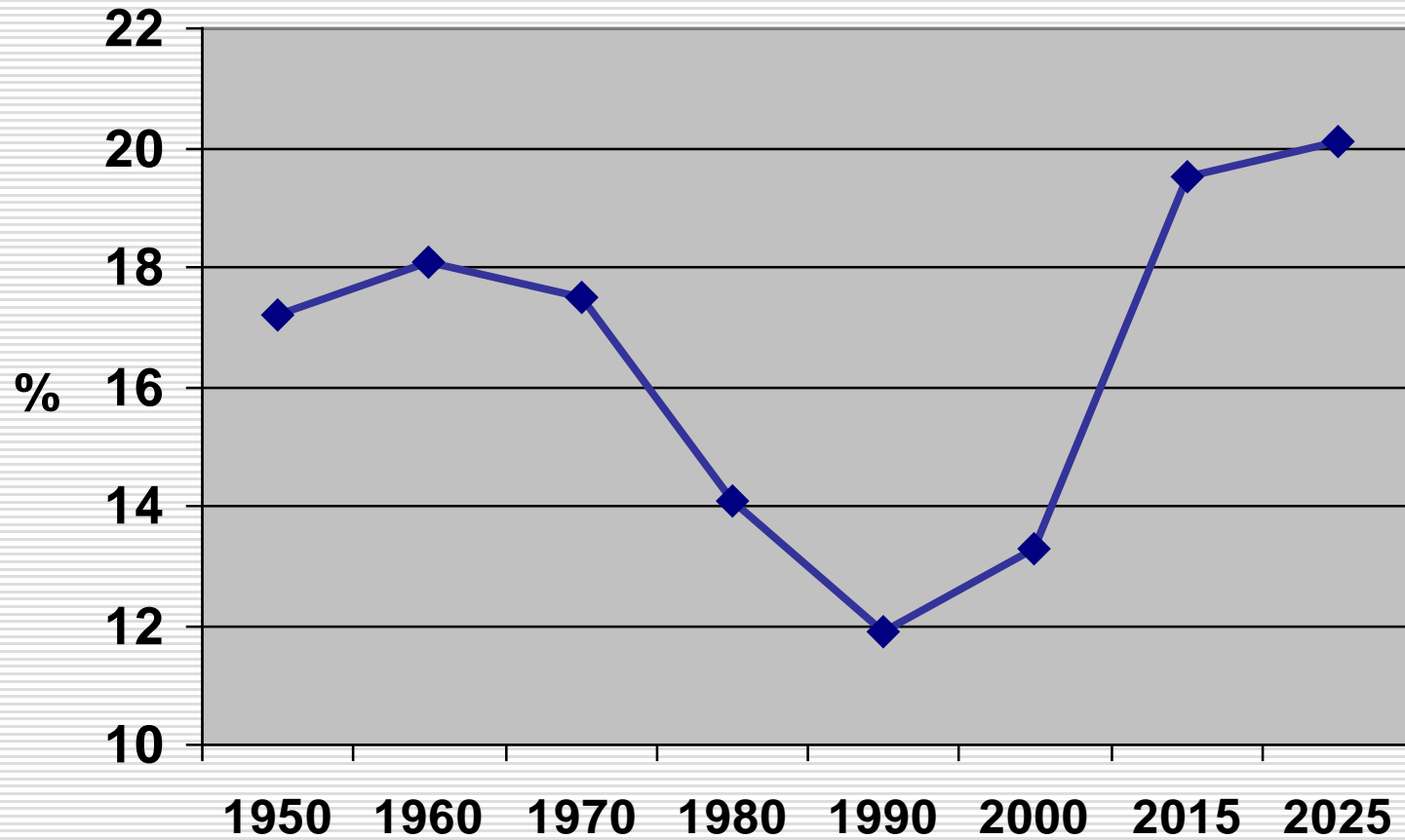


Figure 6. Epinephrine excretion after work at the assembly line and the flexible form of work organization.

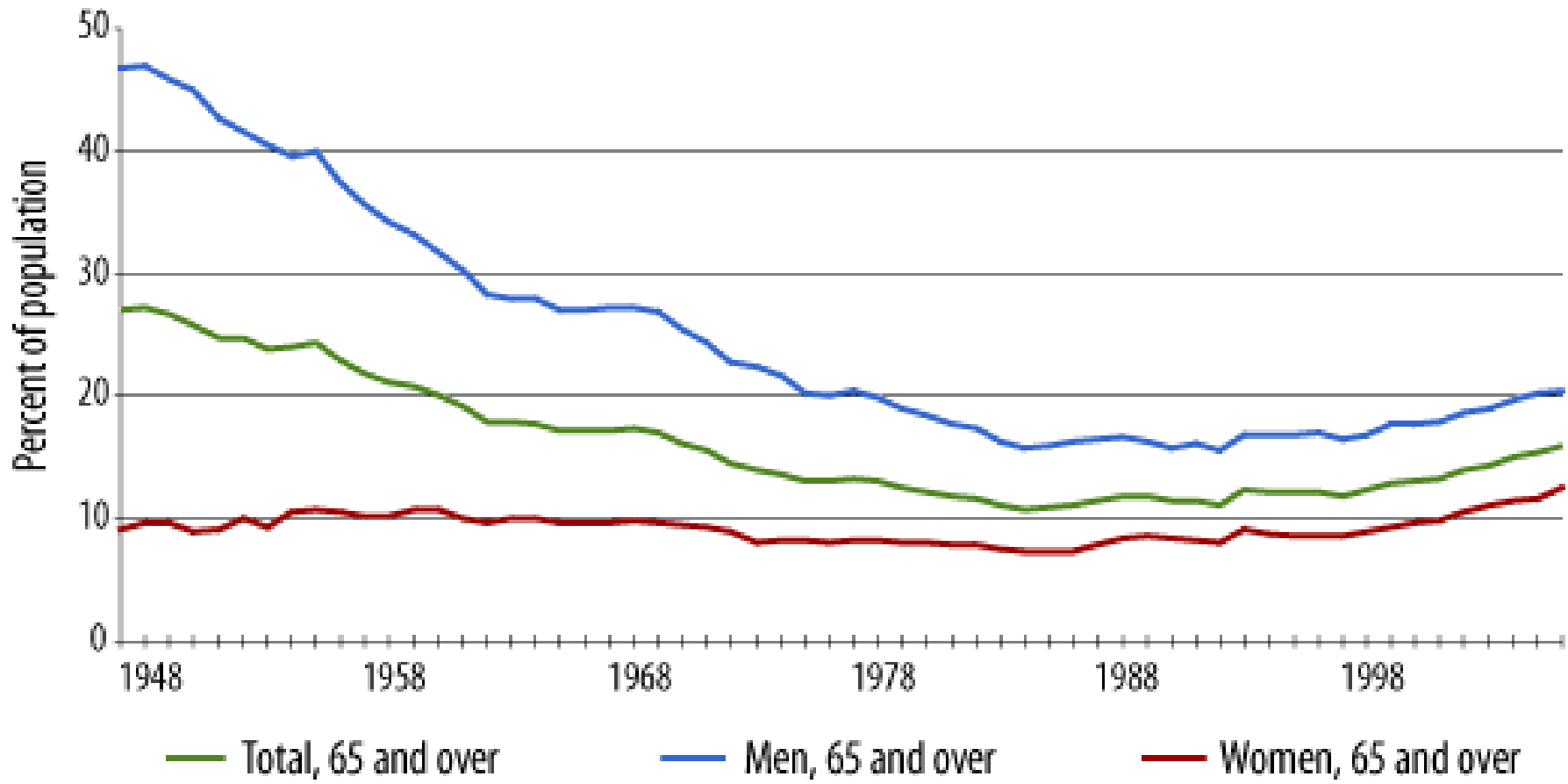
Healthy return to work in aging workers

% of U.S. Workforce Aged 55+



Source: U.S. Bureau of Labor Statistics

Labor force participation rate of workers 65 and over, 1948-2007



Source: U.S. Bureau of Labor Statistics

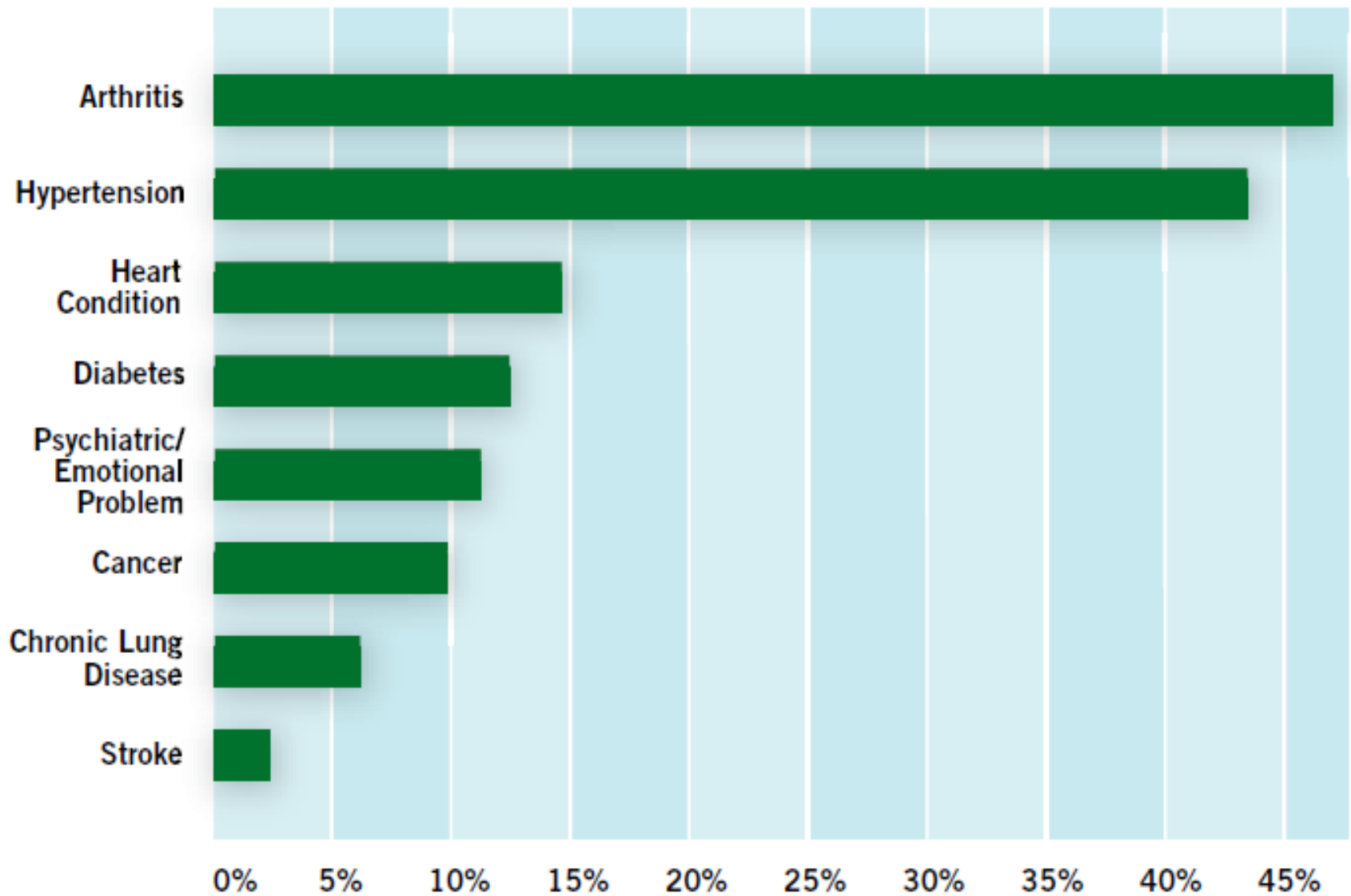
www.bls.gov

Healthy Aging & Aging Productively At Work



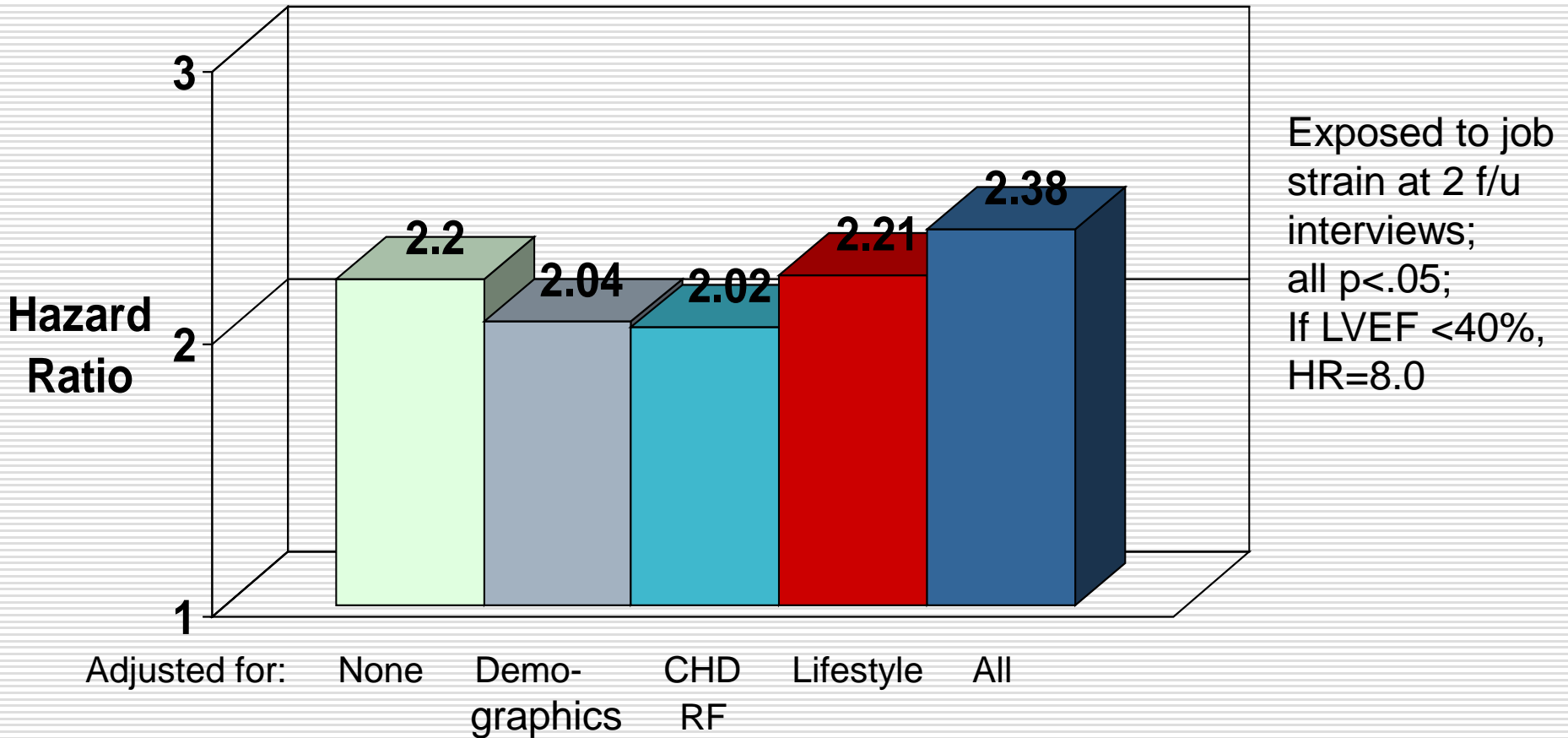
FIG. 1-16

HEALTH CONDITIONS AMONG WORKERS AGE 55 AND OVER: 2002



Chronic job strain predicts CHD recurrence

(Employed non-fatal AMI, 30 Quebec hospitals, age 35-59, 866 men, 106 women; 5.9 yr mean f/u (1996-2005): 206 cases fatal CHD, nonfatal AMI, unstable angina)



Clinical, surveillance programs

Occupational medicine clinics:

To promote worksite interventions

- Ask patients about work history, working conditions
- Identify clusters of work-related chronic disease
- Treatment
- Prevention (with employers, unions)
 - Workplace assessments (IH, ergonomics)
 - Worker education
 - RTW guidelines, including workplace modifications
 - Help manage health promotion programs
- Trusted by lower-income or blue-collar workers
- Potential
 - Work site screening/surveillance: chronic disease, work org
 - Educate cardiologists & psychiatrists on work-related diseases

Analyzing data from employees' medical insurance claims

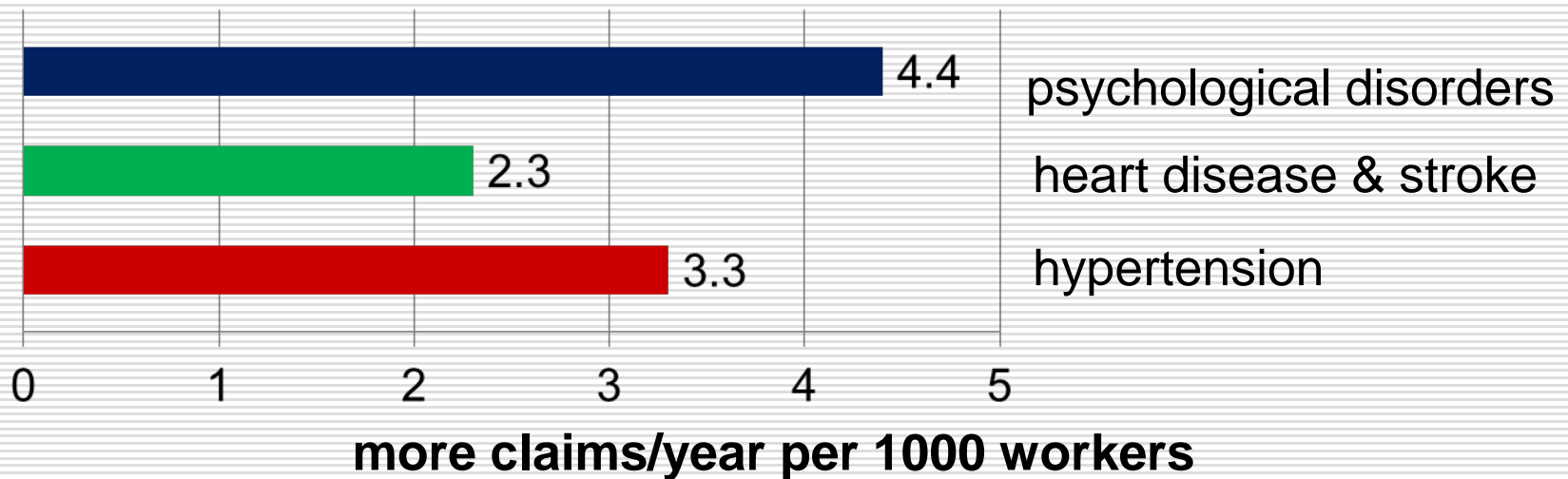
Example: With UAW & automaker, University researchers examined an automaker's:

- 1) Sickness & Disability Insurance Database, 1996-2001
(Eligible starting 4th day of absence due to illness)
- 2) Employment Database, 1996-2002
- 3) Work hour data for manufacturing & assembly facilities, 1996-2000

[no names included in analysis!]

Overtime related to more claims for hypertension and heart disease

- ❑ 1996-2000 avg O/T rate in 23 manufacturing & assembly plants (range: 1-20 hrs/wk, 55,322 hourly workers)
- ❑ Every 10 hrs of O/T worked →



Integrating occupational health and health promotion

Integrate occupational health/health promotion

- ❑ 5 integrated occupational health/health promotion programs
- ❑ Blue-collar (manual) workers
 - More personal CV risk factors
 - More exposure to workplace hazards
 - Lower participation in health promotion programs
 - ❑ Barriers: time constraints & job responsibilities
- ❑ WellWorks Project - 24 Massachusetts worksites
 - Manual workers given time-off for participation in programs
 - When workers aware of employer efforts to reduce hazards
 - more likely to participate in smoking cessation, nutrition, hazard control

Smoking quit rate higher for hourly workers if occupational hazard control program + wellness program (15 Massachusetts worksites)



FIGURE 2. WellWorks-2 results: Adjusted 6-month quit rates at final by intervention and job type (cohort of smokers at baseline: $n = 880$) [Sorensen et al., 2002b].

***Blue-collar workers given time-off for participation in both programs
Greater credibility for HP/OSH combined intervention?***

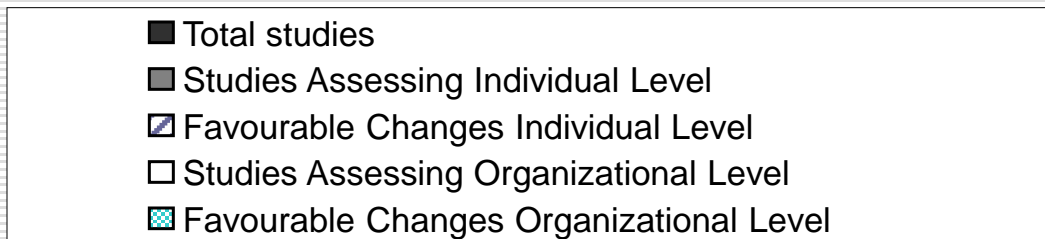
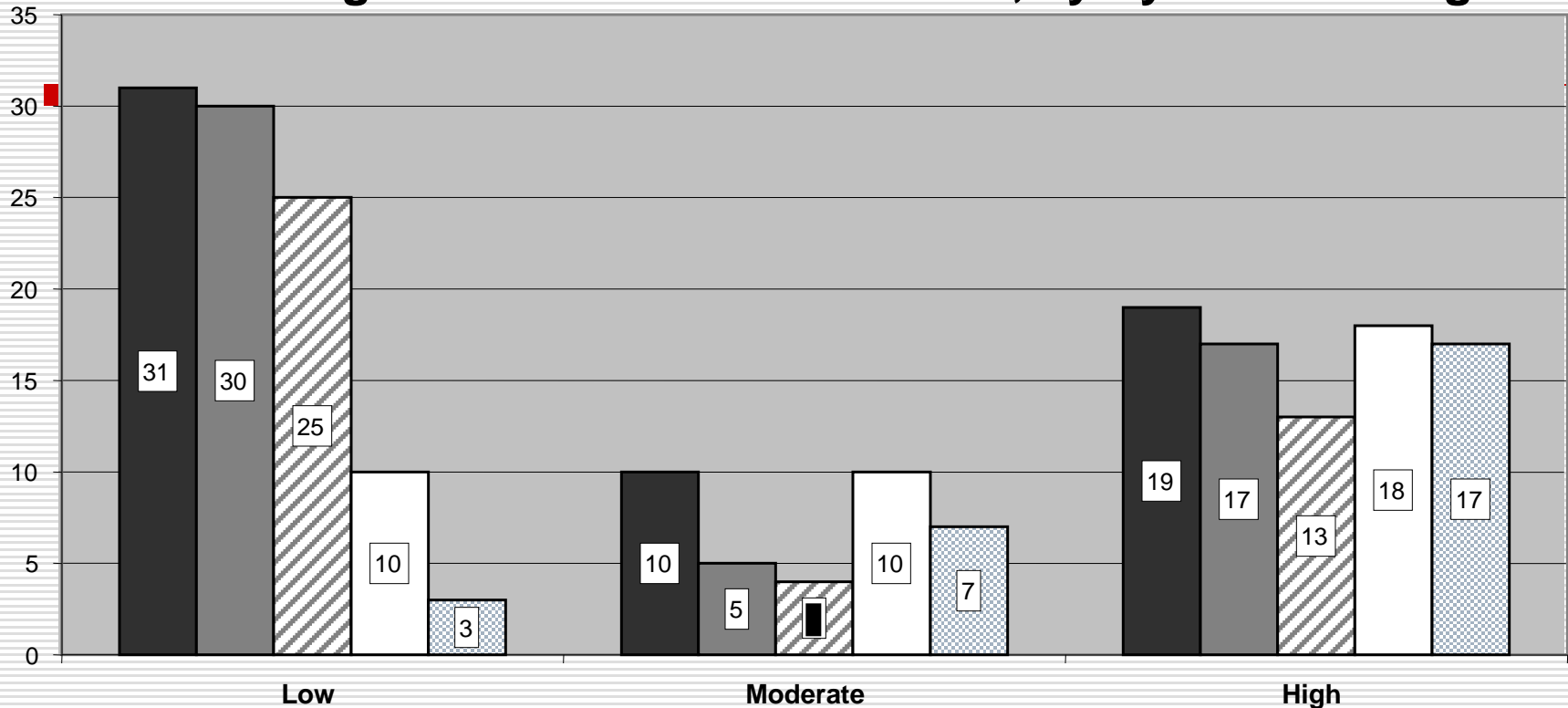
“Systems approaches” effective in reducing stress, improving health

- ❑ 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



Integrated occupational health/ health promotion programs: endorsed by



Healthy Worksite • Healthy Workforce • Healthy Communities

American Heart
Association



<http://www.cdc.gov/nationalhealthyworksite/docs/nhwp-employer-faq.pdf>

Carnethon M, et al. Worksite Wellness Programs for Cardiovascular Disease Prevention. A Policy Statement From the American Heart Association. *Circulation* 2009;120:1725-41.

Integration of health promotion/occupational health for CVD prevention: endorsed by the American Heart Association

- ❑ “workplaces should be free from hazards that jeopardize cardiovascular health & employee safety & well-being”
- ❑ “consider targeted....interventions for their more vulnerable employees that are specifically designed to engage those who are economically challenged, less educated, or underserved”
- ❑ “Worksite wellness programs should help working families balance work & family commitments & incorporate policies around child/elder/dependent care, telecommuting & flexible work schedules”

NIH-NIOSH workshop (May 21-22, 2009): New Research Directions in Chronic Disease Prevention in the Workplace

Work-based Health Protection and Promotion Strategies

Supporting healthier behaviors through work environments and services offered at work

- Health screening & services
- Promoting healthy behaviors (diet, smoking cessation)
- Creating a health-promoting environment

Preventing work-related illness and injury

- Workplace safety measures
- Control of workplace hazards
- Improved ergonomics
- Health and safety training

Reducing work-related stress

- Decreasing job strain
- Fostering social support at work
- Stress management
- Supporting work-family balance (e.g., through flexible schedules)

Expanding work-related resources and opportunities

- Medical care benefits
- Paid sick and personal leave
- Child and elder care
- Job training
- Adequate wages and salaries



- ❑ **Contract: Harvard University & UNITE-HERE Local 26**
 - Labor-mgmt committee: environmentally responsible, healthy food sourcing & preparation (including utilizing cooking skills)
 - Better job security
 - Student support
 - Similar efforts at other campuses
- ❑ **~100 food organization leaders signed pledge:**
 - **REAL FOOD:** fresh cooked, not processed meals; local & ethical ingredient sourcing; humane environmental production methods
 - **REAL JOBS:** workers: living wage & benefits; freedom to publicly disclose food safety or quality issues & unionize w/o intimidation
 - **TRANSPARENCY:** food service institutions to disclose source of food purchases & wages & benefits paid to food workers

Policy interventions

Legislation, regulations

Legislation & Regulation (U.S.)

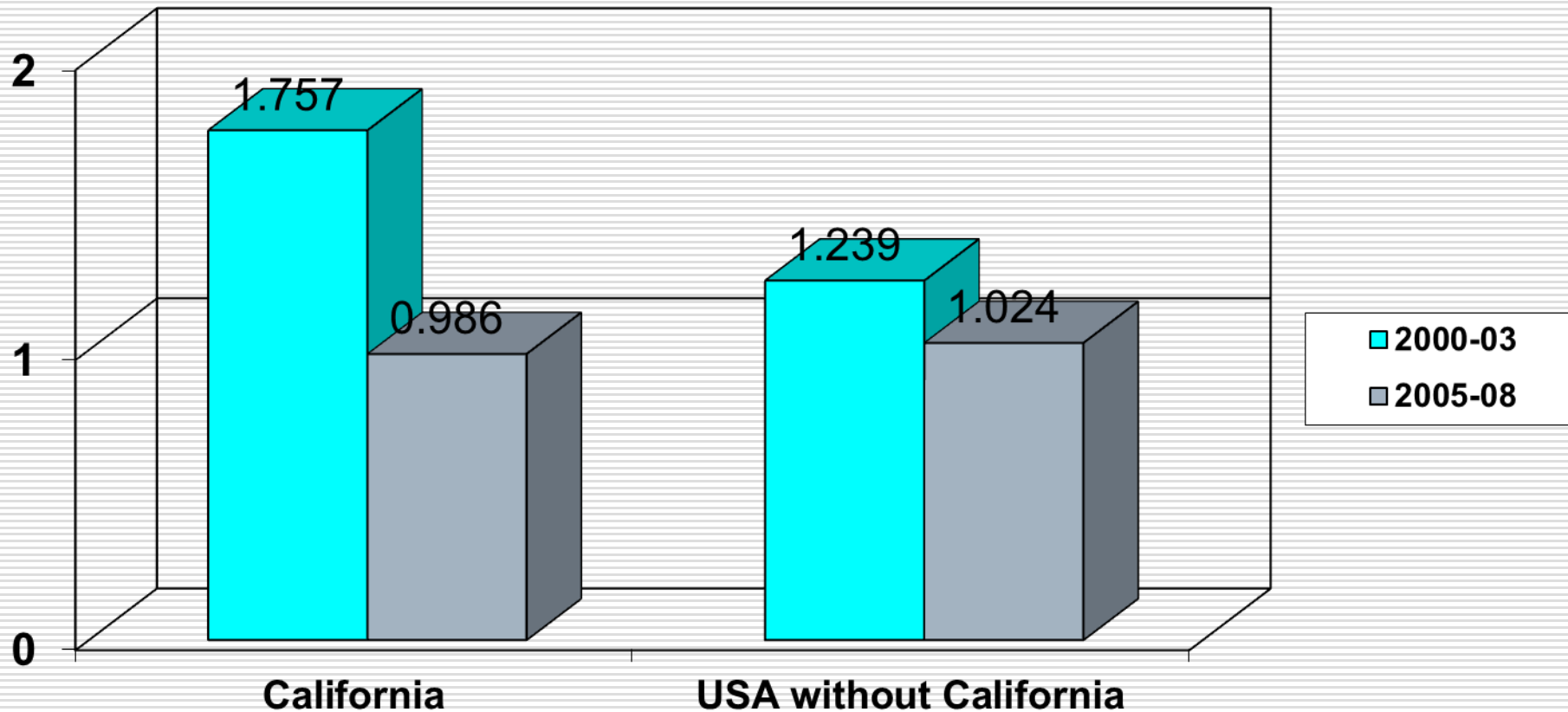
National level, limited legislation, regulation → local initiatives:

□ U.S. state legislation:

- Paid sick days (Calif, Conn, Mass)
 - 18 cities (SF, Oakland, NYC....)
- Bans on mandatory overtime (hospital nurses), 17 states
 - NY: 7/1/09
- Protections for domestic workers
 - NY, HI
- Minimum hospital nurse staffing: CA: mandatory; some version in 15 states
 - NY: now only requires staffing level disclosure; proposed law

2004 California nurse-to-patient ratio law & RN injury rates

(Lost workday non-fatal injury & illness rates/100 RNs/year, BLS)



Similar difference for LPNs, or if 3 or 5 year intervals included.

Leigh JP, Markis CA, Iosif A-M, Romano PS. Int Arch Occup Environ Health 2015;88:477-484.

Nurse staffing ratios and patient safety

- ❑ Discharge data, 422,730 patients, 50+ yrs, underwent common surgeries, 300 hospitals, 9 European countries
- ❑ Adjusted for age, sex, admission type, surgery type, comorbidities present at admission
- ❑ Results
 - Increase in nurses' workload by 1 patient increased likelihood of an inpatient dying within 30 days of admission by 7% (OR=1.068, 95% CI 1.031–1.106)
 - Every 10% increase in bachelor's degree nurses was associated with a decrease in this likelihood by 7% (OR=0.929, 0.886–0.973).

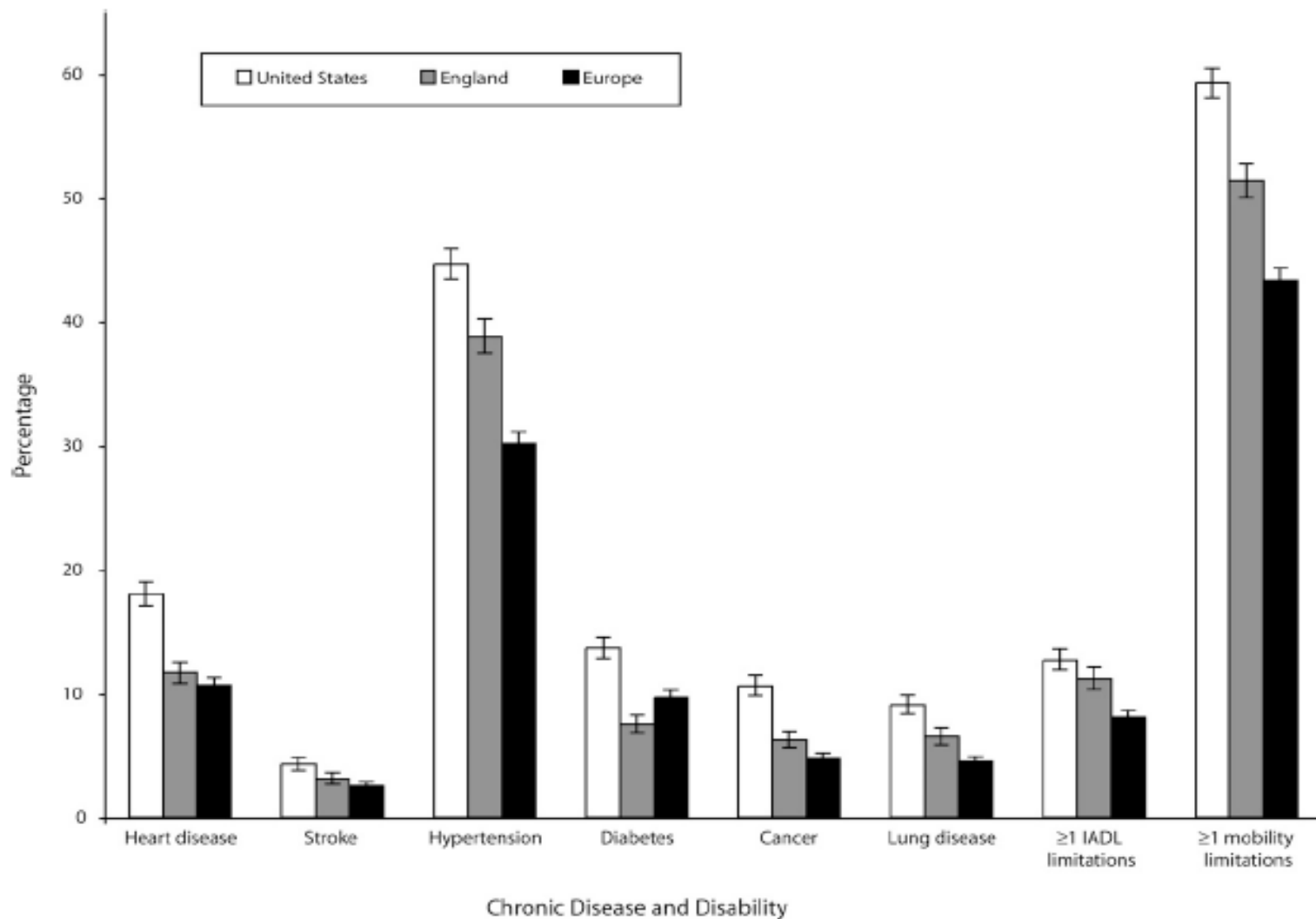
Swedish Work Environment Act, 1977

(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

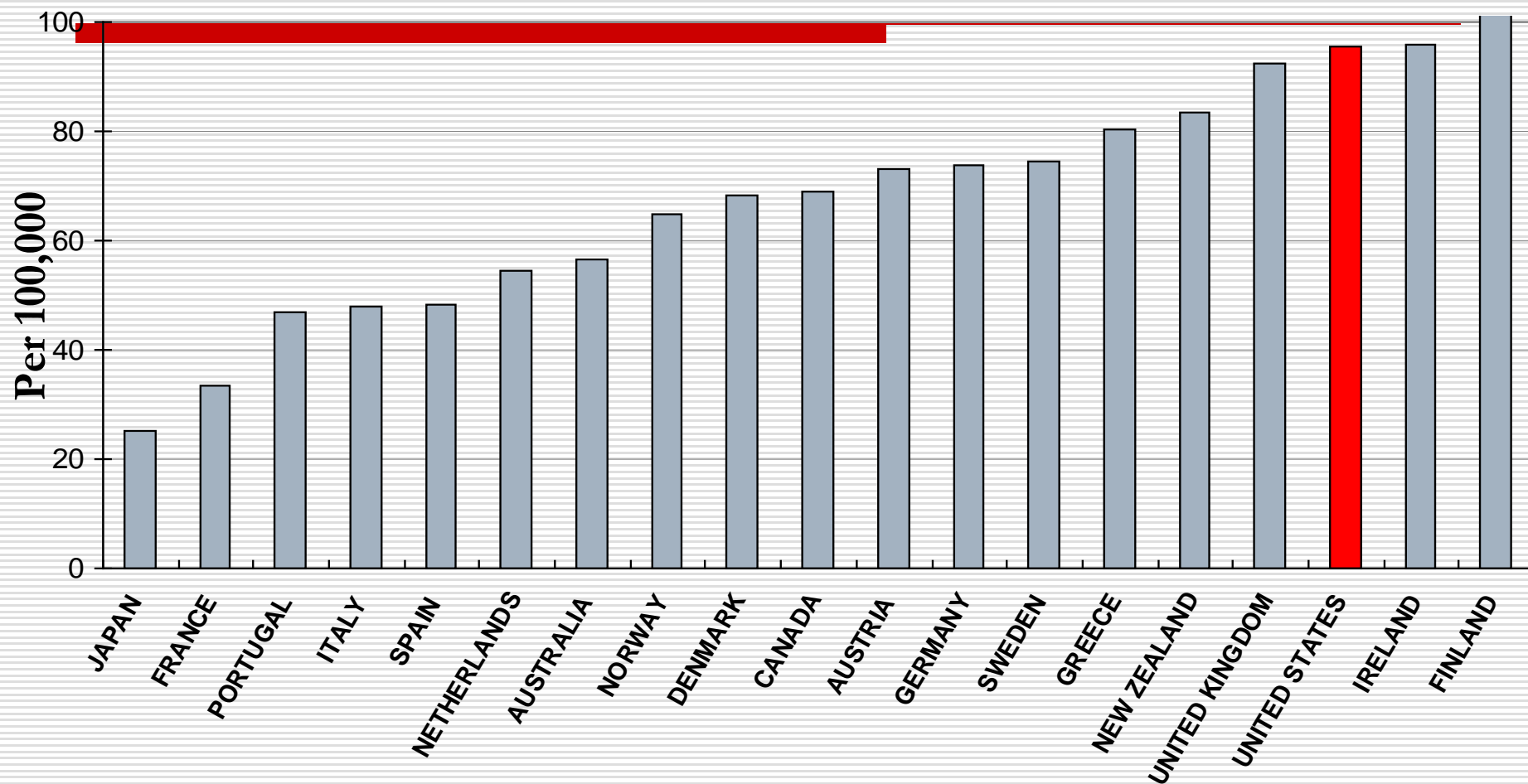


Notes. HRS = Health and Retirement Survey; ELSA = English Longitudinal Study of Ageing; SHARE = Survey of Health, Ageing and Retirement in Europe; IADL = instrumental activities of daily living. Model adjusted for age and gender; lines indicate 95% confidence intervals.

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.

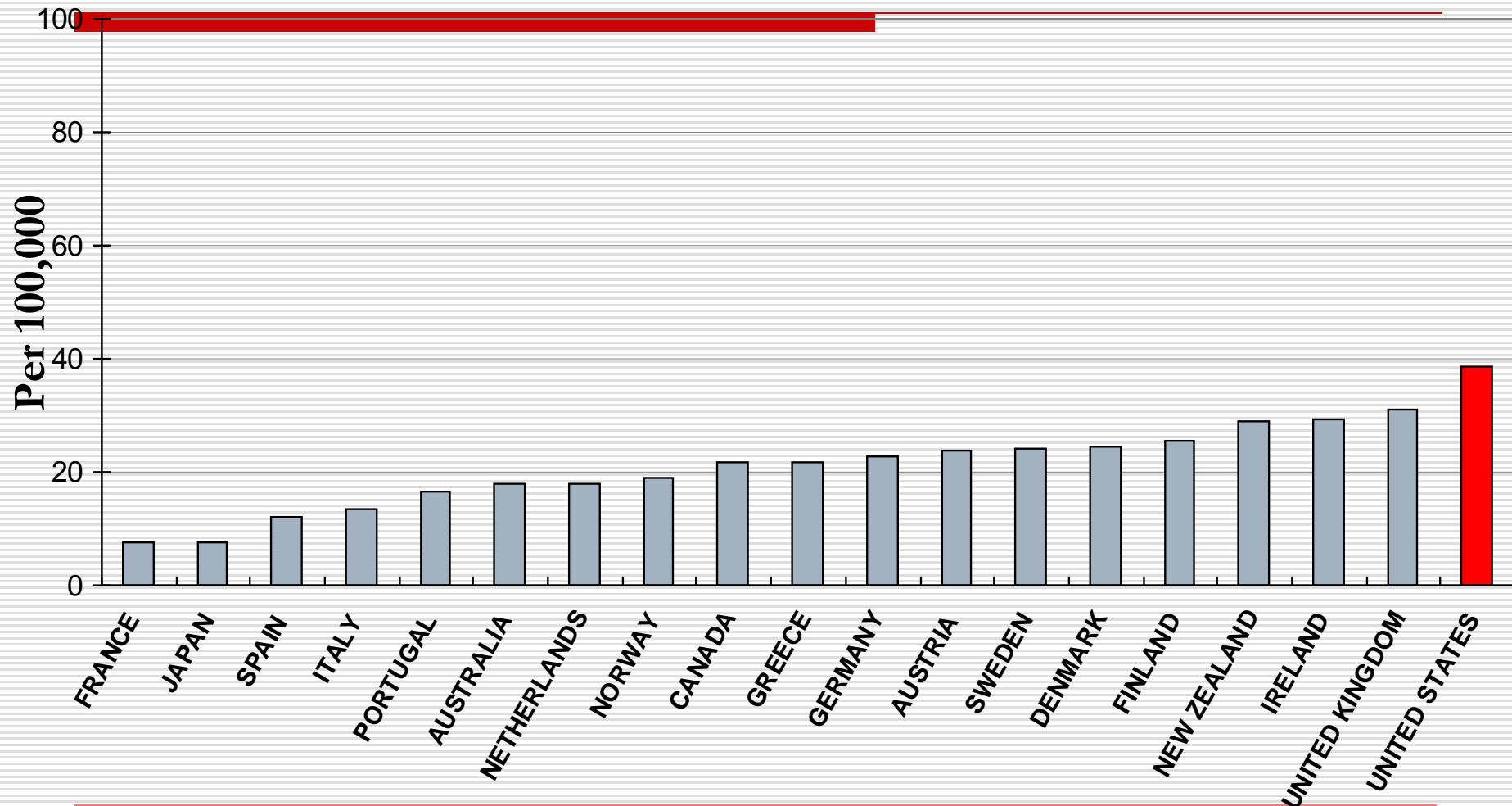
Coronary Heart Disease death rates:

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

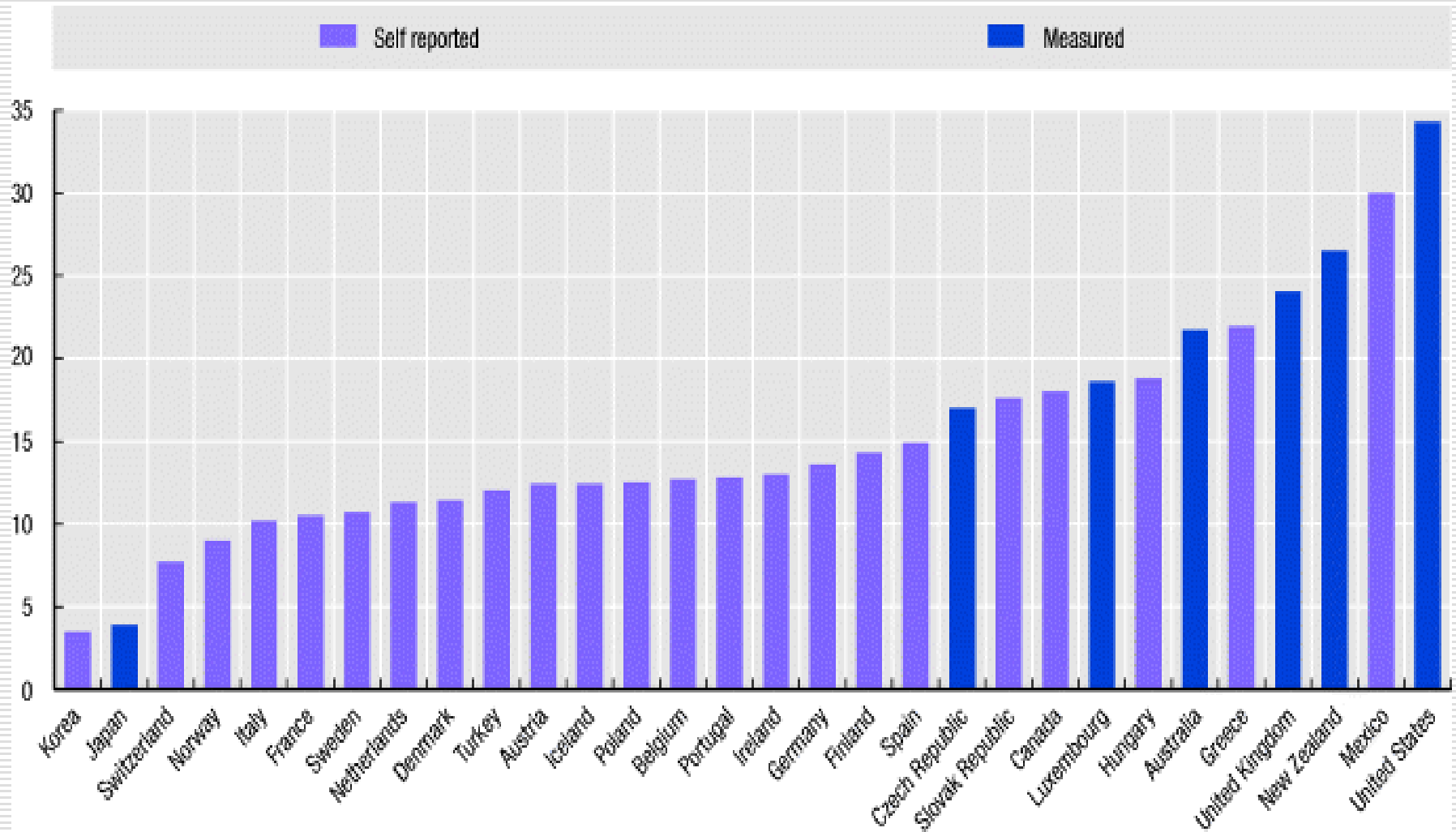


Coronary Heart Disease death rates:

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



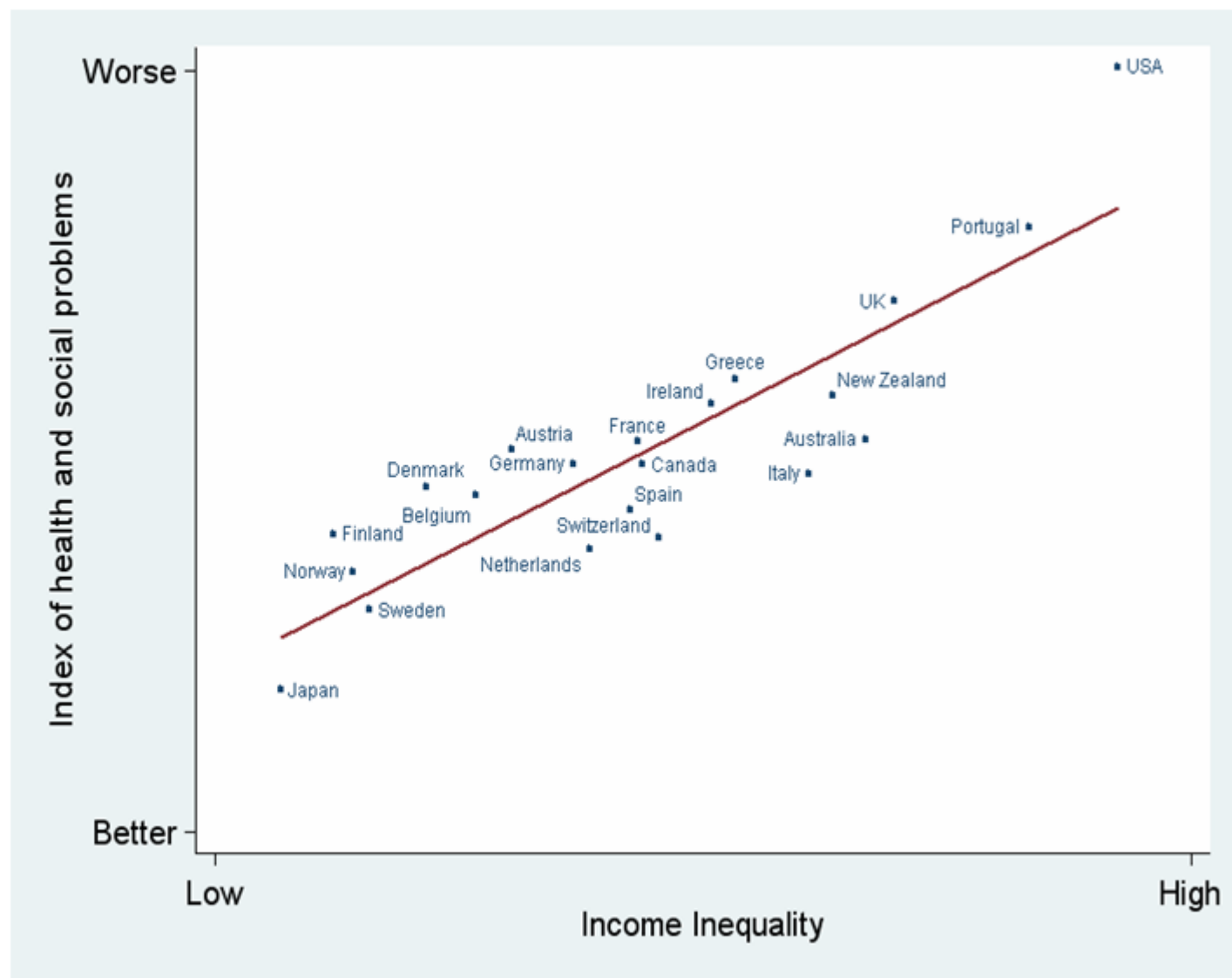
Obesity (% BMI ≥ 30), OECD 2009



Health and Social Problems are Worse in More Unequal Countries

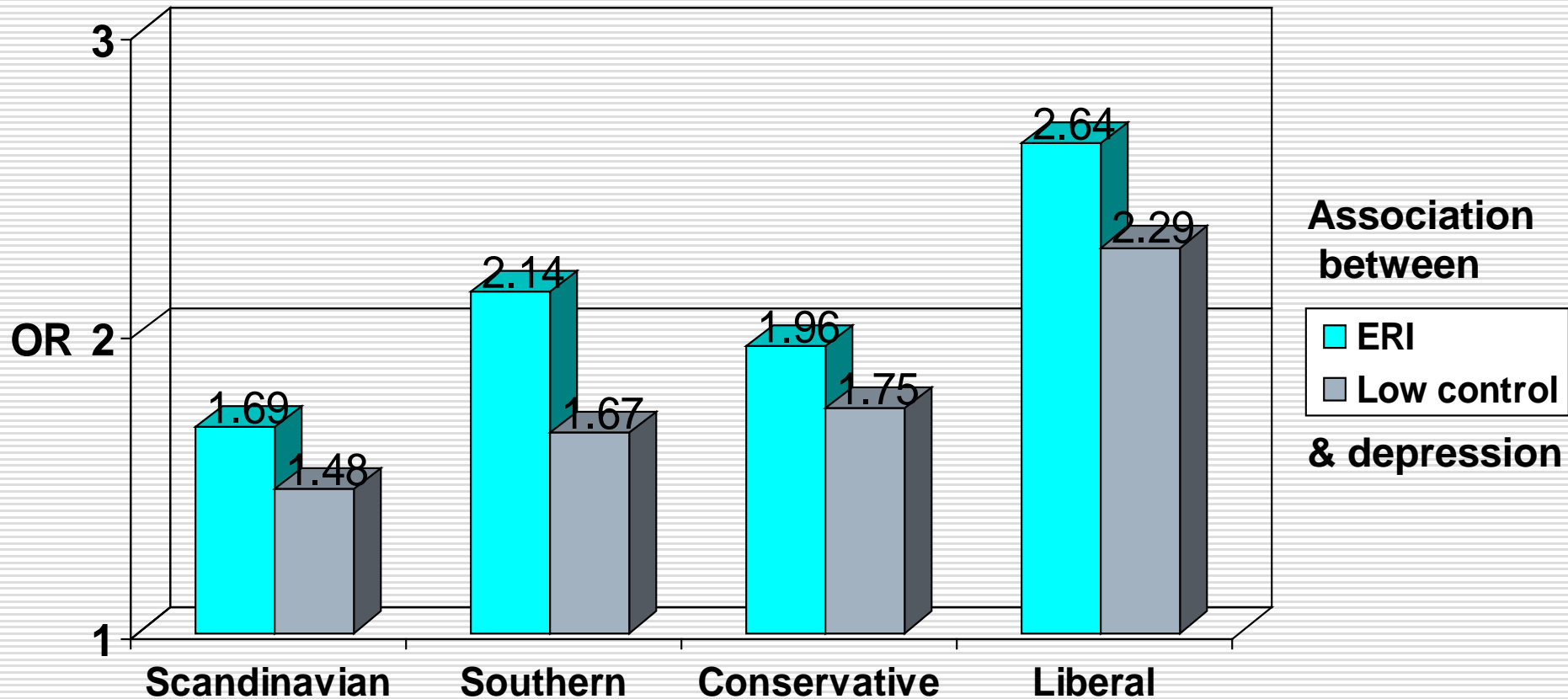
Index of:

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



Association between job stressors & depression varies by type of government

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



Strategies for Work Stress-Related Chronic Disease Prevention

- ❑ Alternatives to individual health promotion:
 - Collective bargaining
 - Healthier systems of work organization
 - Integrate occupational health & health promotion
 - Public awareness/coalition-building
 - Legislation/regulation
- ❑ Fairer: reach lower income workers, address their needs
- ❑ Address root causes
- ❑ Potential for greater
 - improvements in worker health, lower costs

UNHEALTHY WORK

CAUSES, CONSEQUENCES, CURES



EDITORS
Peter L. Schnall
Marnie Dobson
Ellen Roskam

CRITICAL APPROACHES IN THE HEALTH SOCIAL SCIENCES SERIES
SERIES EDITOR: RAY H. ELLING

 BAYWOOD PUBLISHING COMPANY, INC.
AMITYVILLE, NEW YORK

For further
information:

NIOSH

Total Worker Health

<http://www.cdc.gov/niosh/twh/>

Unhealthy Work:

Causes, Consequences, Cures

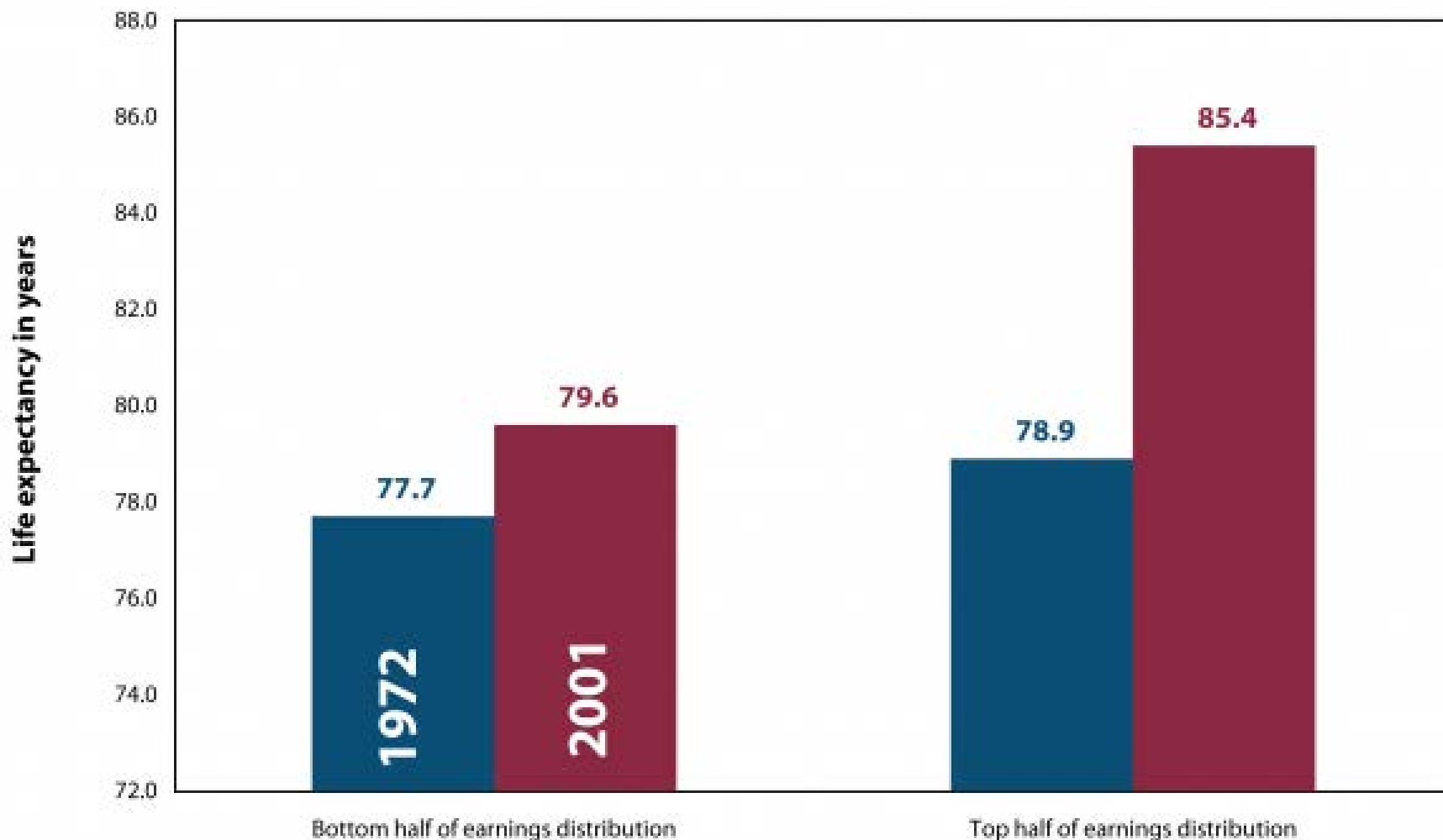
[http://www.baywood.com/books/preview
book.asp?id=978-0-89503-335-2](http://www.baywood.com/books/previewbook.asp?id=978-0-89503-335-2)

**Center for Social
Epidemiology**

<http://unhealthywork.org/>

Most gains in life expectancy have gone to high earners

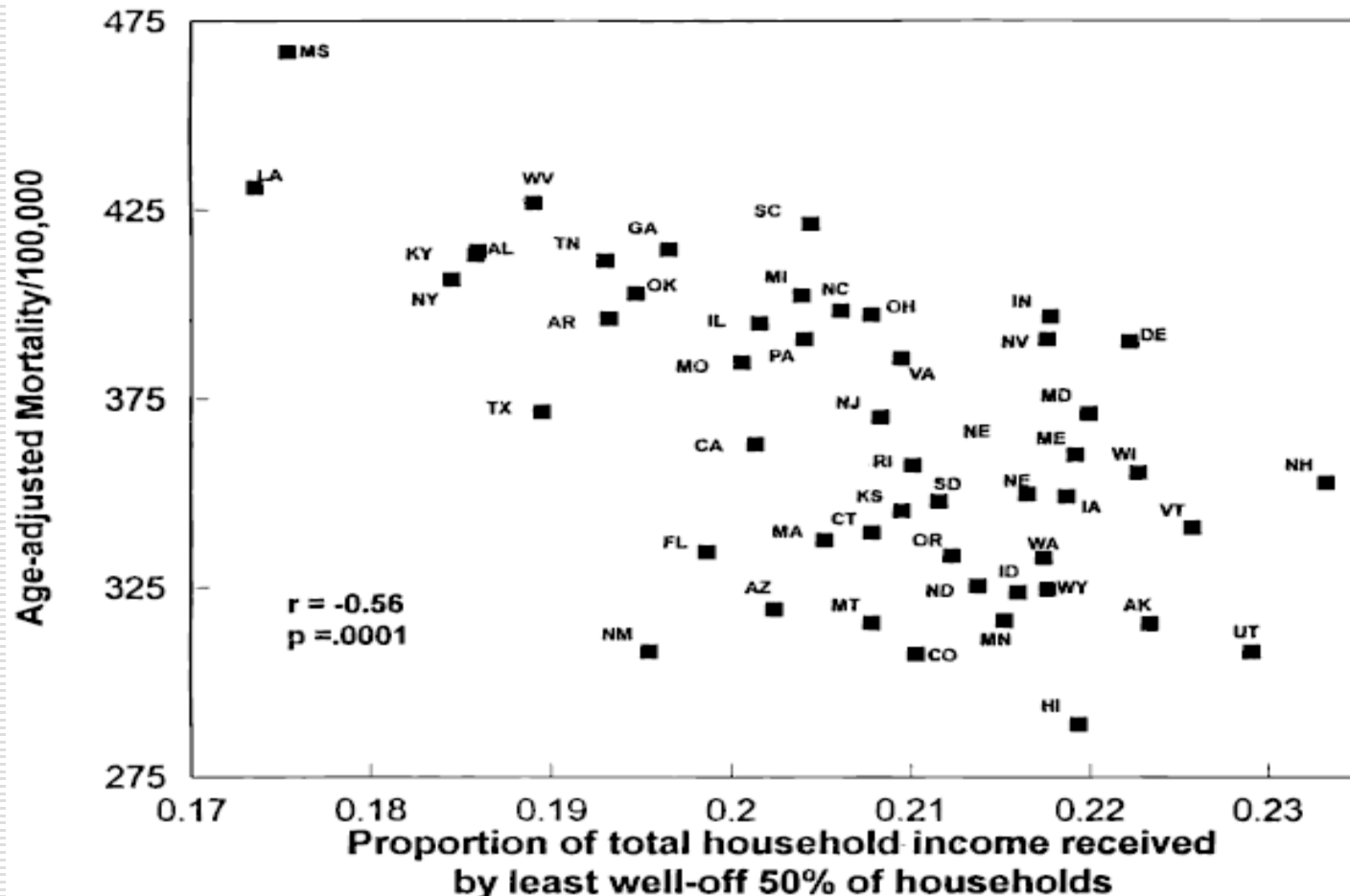
Life expectancy for male Social Security-covered workers (age 60)
by earnings group, 1972 and 2001



Source: EPI analysis of Waldron (2007).

Higher cardiovascular death rates if higher income inequality

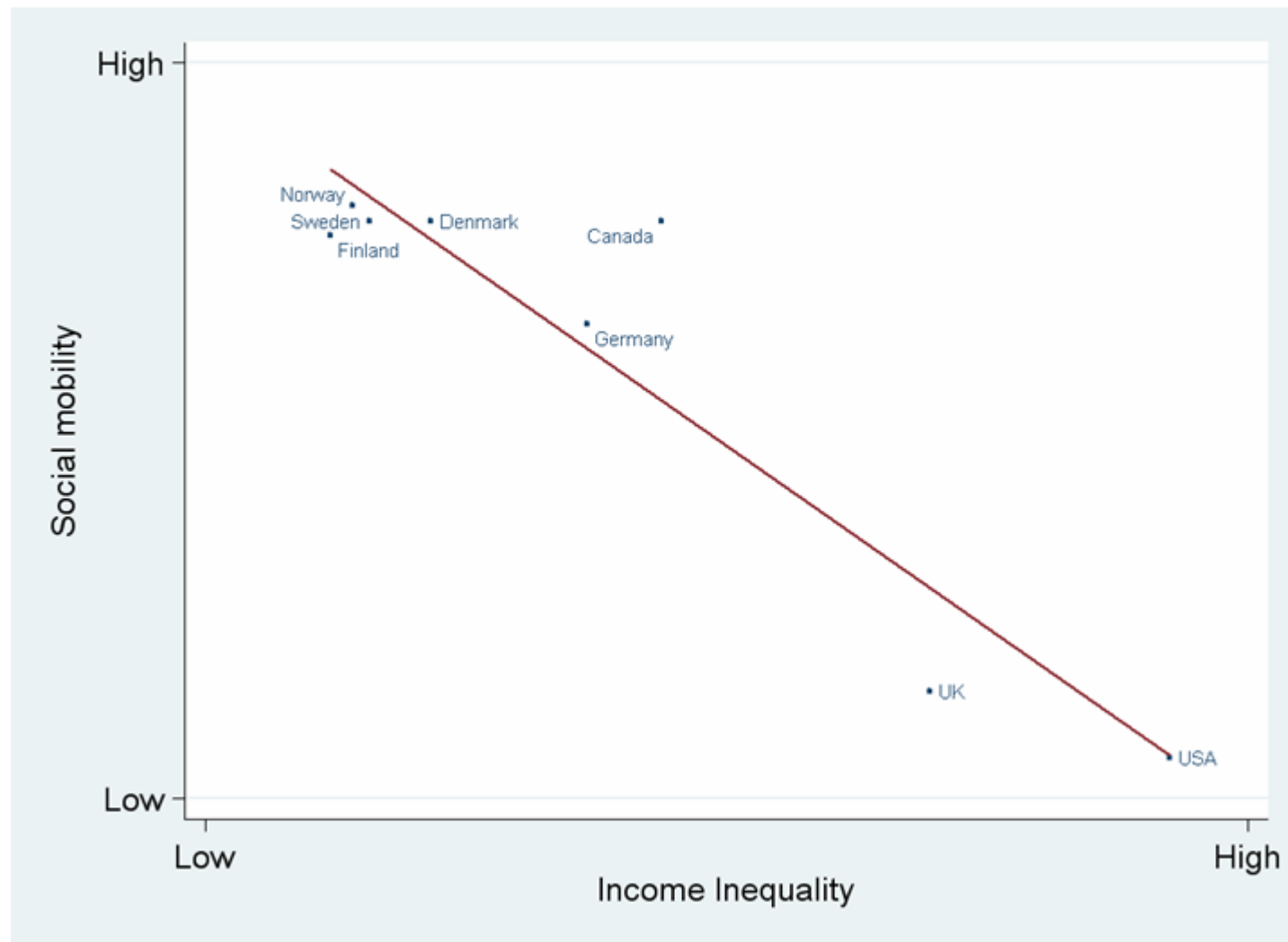
(U.S. states, 1990)



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

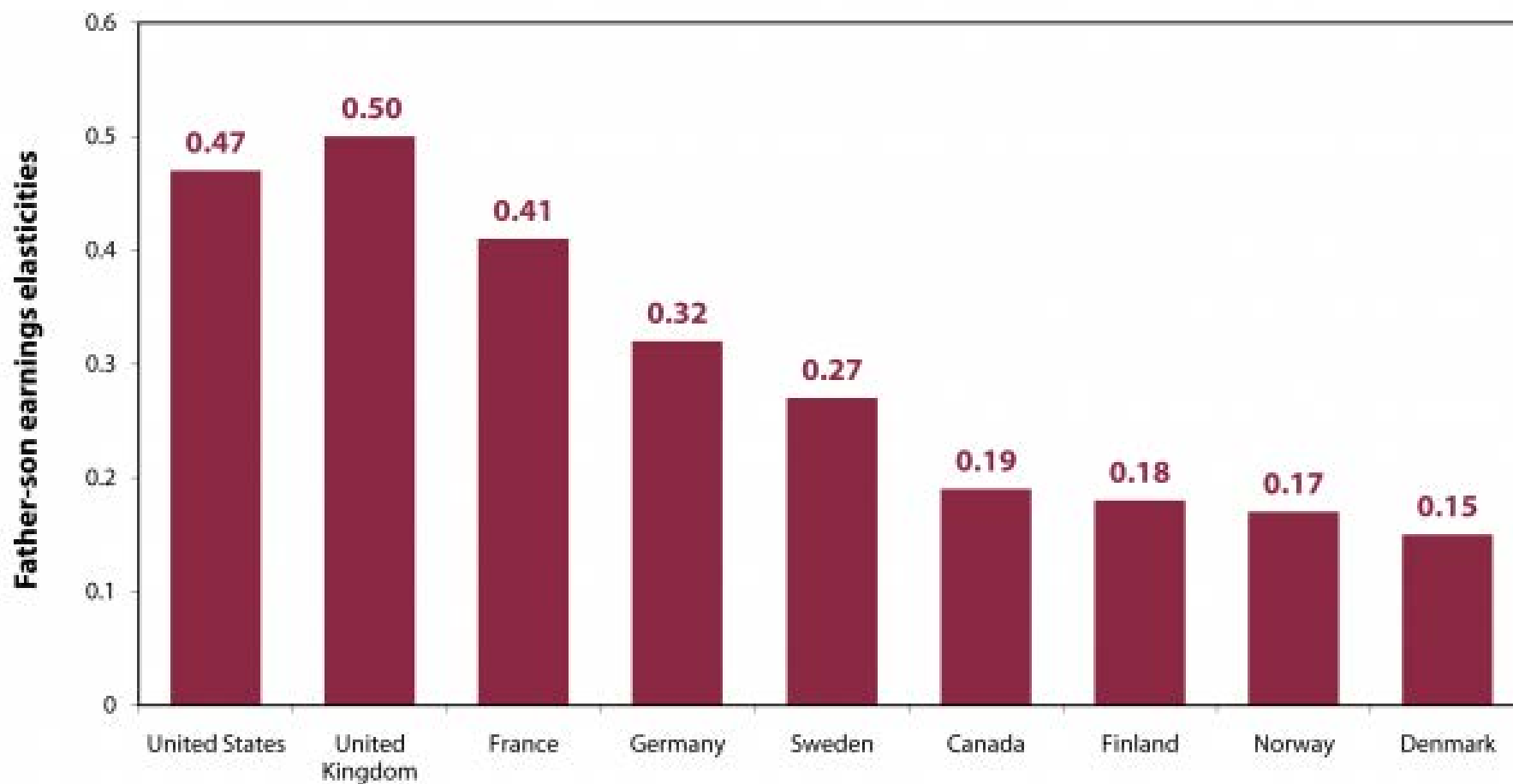
- ❑ ↓ education spending (as % of total)
- ❑ ↑ % without health insurance
- ❑ ↑ unemployment, % prisoners, % food stamps
- ❑ ↑ rates: smoking, sedentary behavior, LBW, homicides, violent crimes
- ❑ working conditions and worker health??

Social Mobility is Higher in More Equal Rich Countries



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

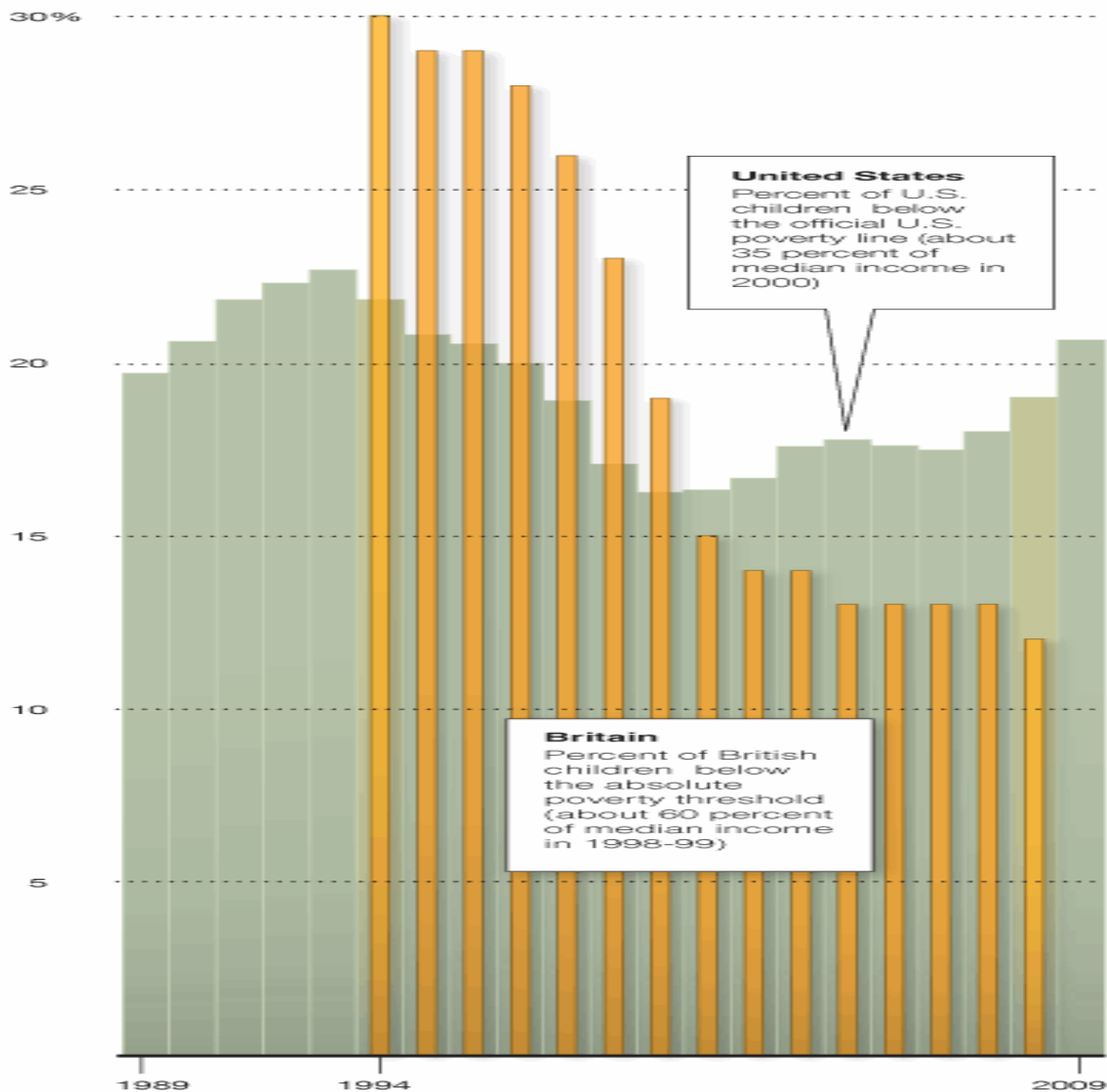
Intergenerational correlations, fathers and sons, U.S., U.K., Europe, and Scandinavia



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 (\approx \$9/hour)
- ❑ Tax reductions & credits for low-income workers.
 - Lone-parent employment: 45% to 57% (1997-2008)
- ❑ \uparrow 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.

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
-

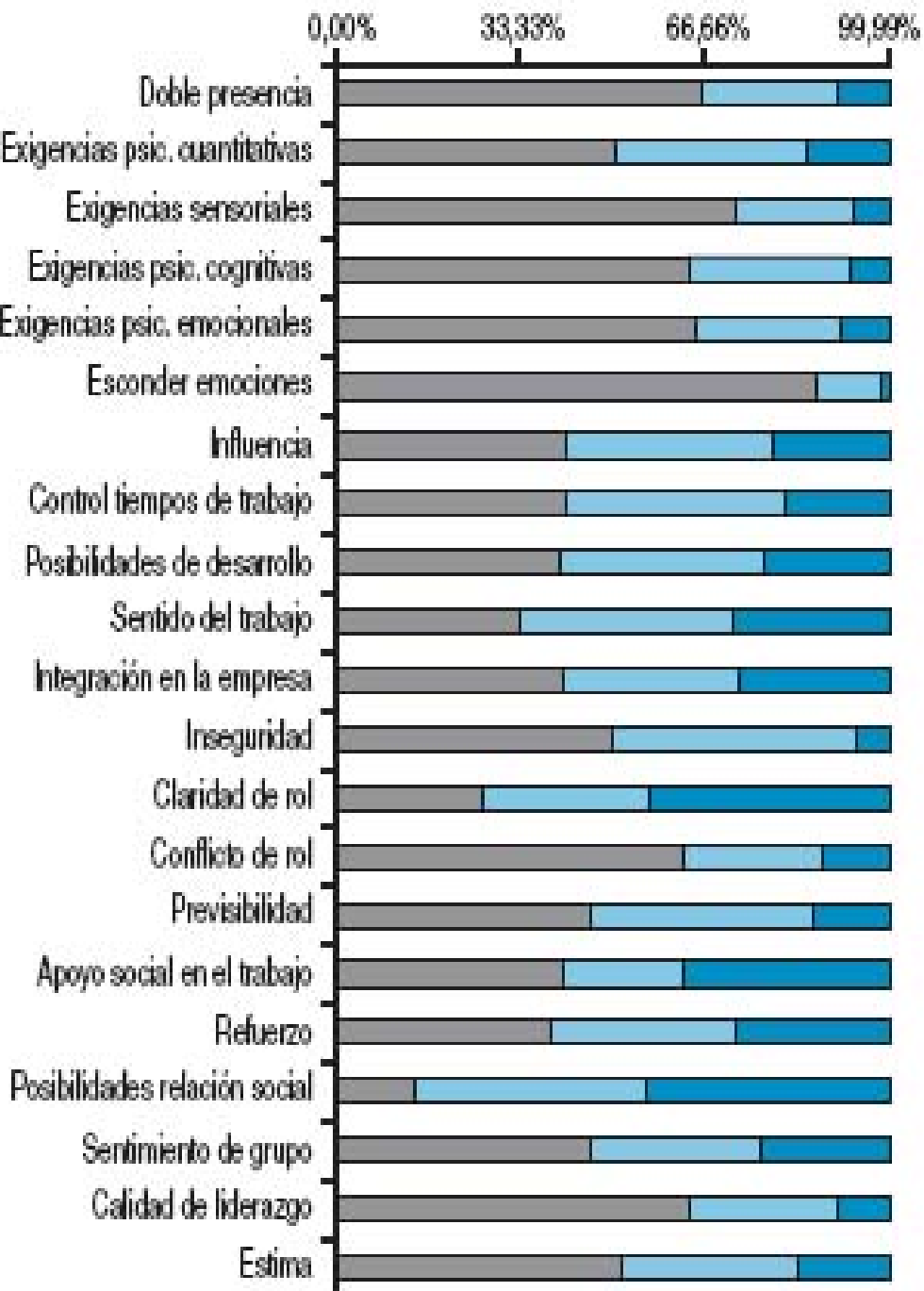
Risk assessment and prevention method

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.)
-

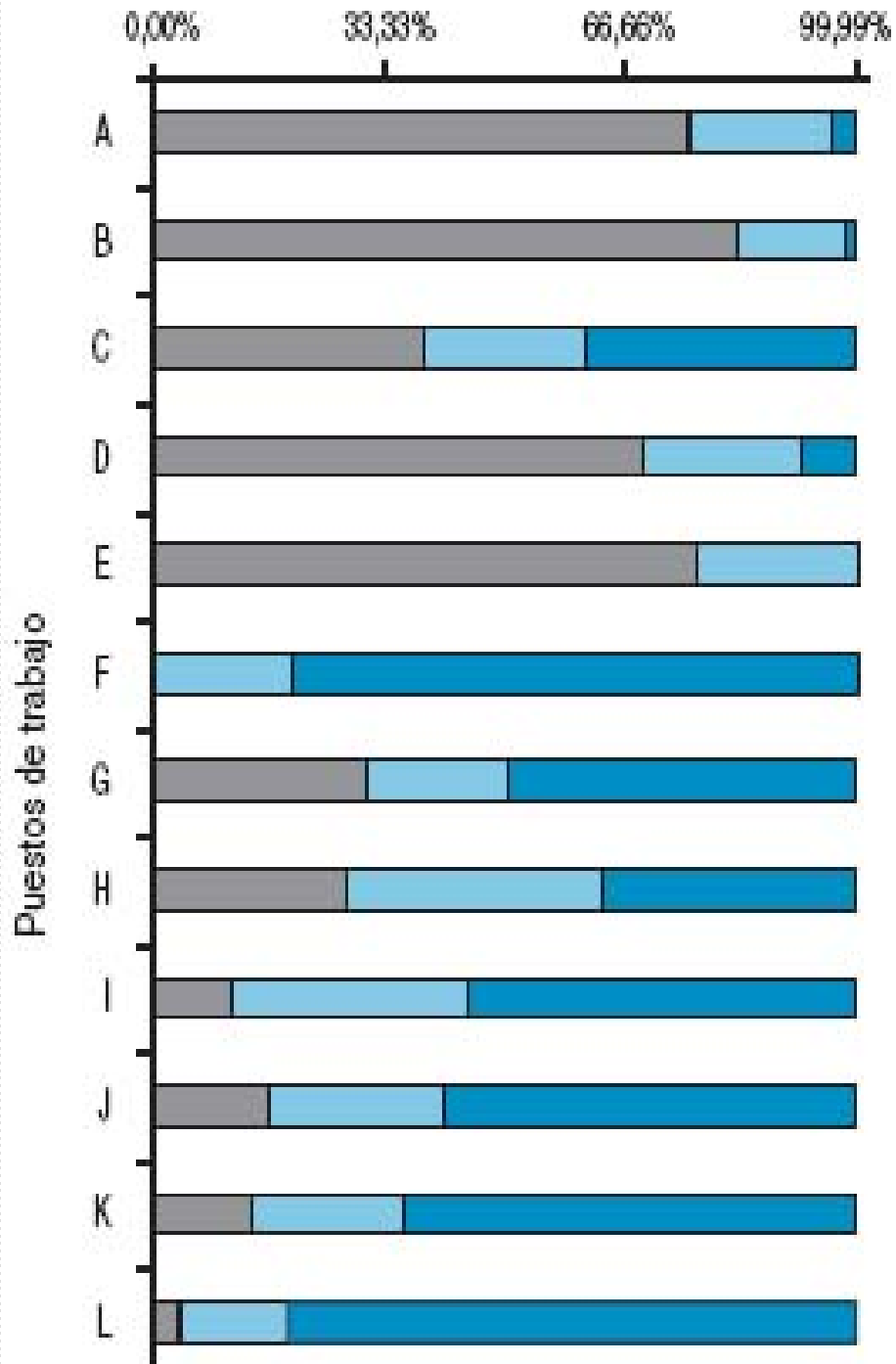
Figura 5. Dimensiones psicosociales que identifica y evalúa el CoPsoQ (istas21 , psqcat21)

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)
-

Programs to reduce work organization & job stress: Summary

- Document hazards & health effects
 - Organize around these issues
 - Worker education
 - Gain public support
 - Bargain
 - Lobby for better laws & regulations
-

For Further Information

❑ **NIOSH**

<http://www.cdc.gov/niosh/topics/stress/>

❑ **Center for Social Epidemiology**

<http://www.workhealth.org>

❑ **Barefoot Research, International Labour Office**

<http://www.ilo.org/public/english/protection/ses/info/publ/barefoot.htm#line>

❑ **World Health Organization**

http://www.who.int/occupational_health/en/

http://www.who.int/social_determinants/en/

❑ **Unhealthy Work: Causes, Consequences, Cures**

<http://www.baywood.com/books/previewbook.asp?id=978-0-89503-335-2>

Occupational Cardiology/Psychiatry

link cardiologists, CVD health promotion experts, psychiatrists, psychologists, social workers and occupational health specialists to:

- ❑ include occupational Hx in diagnostic work-up
- ❑ Conduct work site screening/surveillance
 - RF: hypertension, depression, burnout, PTSD
 - RF: job stressors, or high risk occupations
 - Access to employee medical insurance claims (chronic disease)
- ❑ Expand use of ambulatory monitoring techniques
- ❑ RTW guidelines, including workplace modifications
- ❑ Integrate health promotion + workplace interventions
- ❑ Educational materials for health professionals
 - www.workhealth.org

Heart Check

Assessing Worksite Support
for a Heart Healthy Lifestyle

Version 4.1



New York State Dept. of Health
Healthy Heart Program

Heart Check:

Section 9: Organizational Foundations

Does the worksite:

- use some form of negotiated “management by objective” for determining workload (either through collective bargaining or individual negotiations)
- use a formal employee appraisal process for the supervisor to assess employee performance?
- have a formal employee **grievance procedure**?
- provide **flexible work scheduling policies**?
- provide **personal leave/vacation time allowances**?
- have a strategy to address **dependent (child/elder) care**?
- subsidize the employee's **health insurance by at least 50%**?

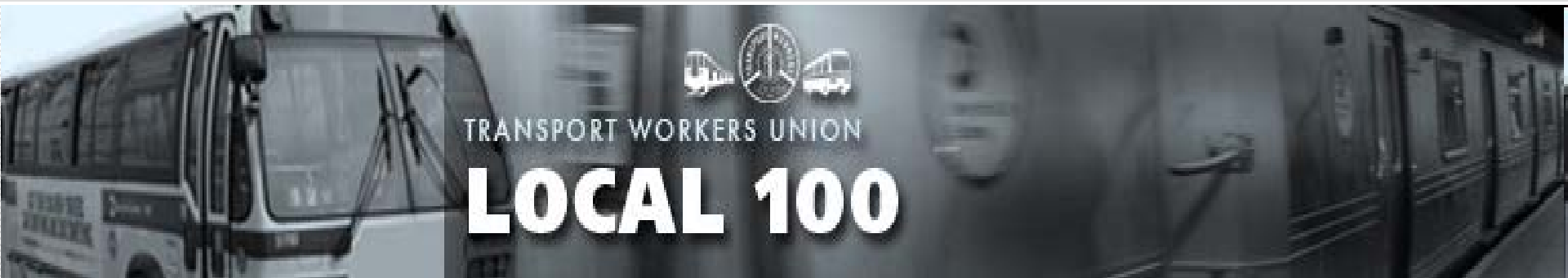
NY State Occupational Health Clinics proposal to NYS Dept of Health (1/8/07)

- ❑ OH Clinics integrate clinical & worksite prevention programs
 - ❑ 3 clinics involved in formal CV health promotion efforts
 - 1) Expand HeartCheck and HRAs to include:
 - toxic substances, noise, long work hours, shift work, downsizing, job security, high demand-low control work, effort-reward imbalance
 - 2) Worksite screenings
 - based on “sentinel health events” or high-risk occupations
 - surveys, HRAs: CVD risk factors, depression, PTSD, work exposures
 - ambulatory BP & Holter monitoring
 - feedback to individuals, management, labor
 - 3) Educational materials: health professionals, employers, unions, patients
-

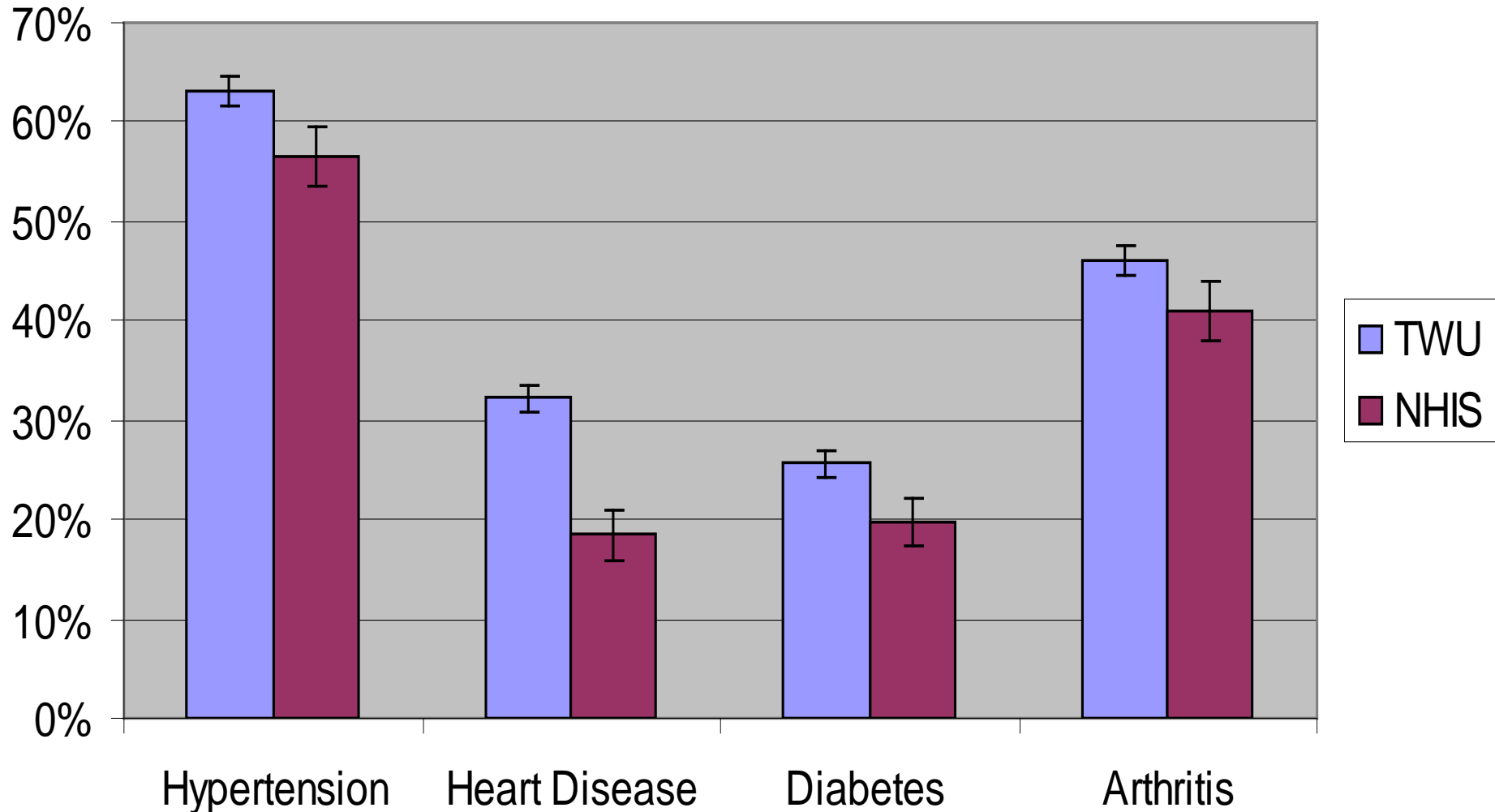
Employee organization involvement:

Example: Transport Workers Union, Local 100, integrated occupational health – wellness program

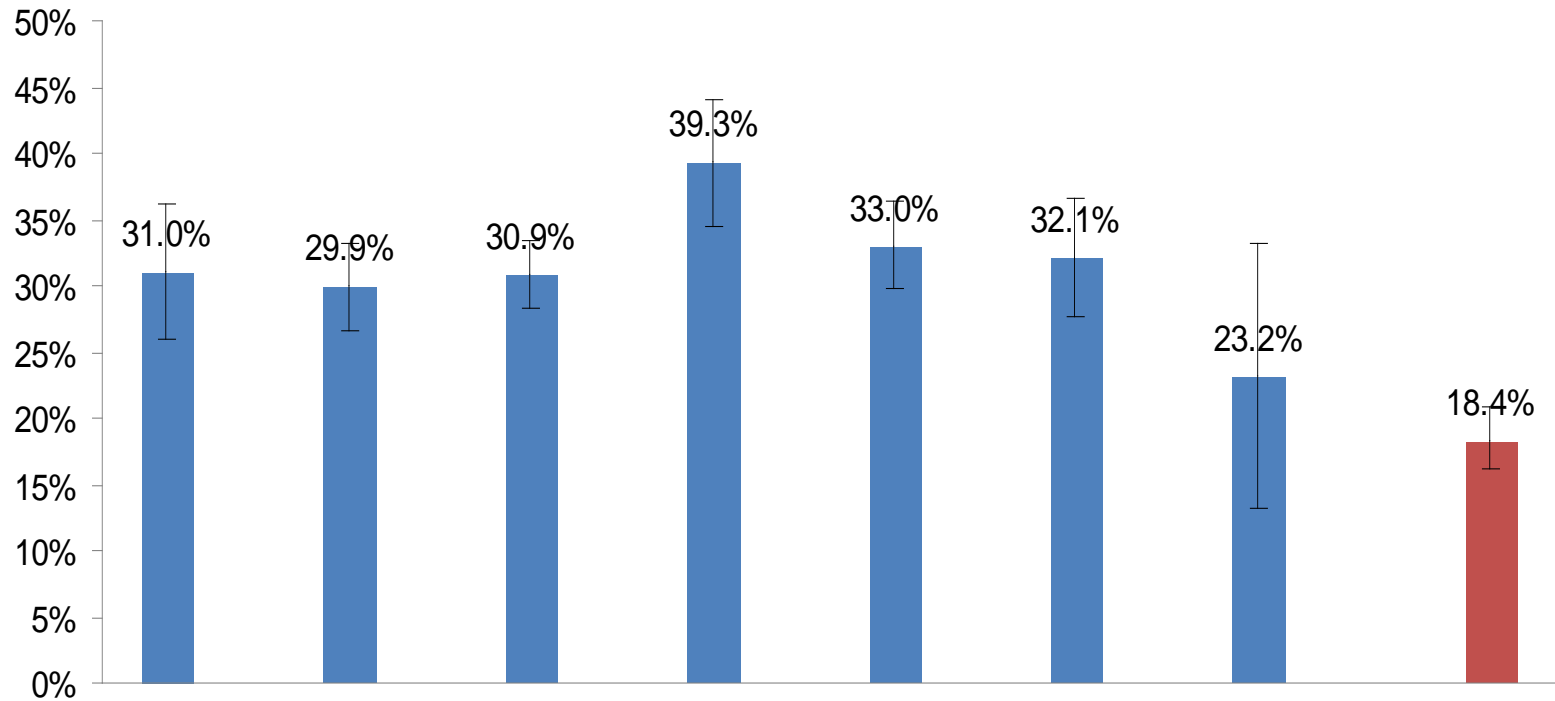
- ❑ Screenings for high blood pressure, diabetes, cancer
- ❑ Healthy food choices at work
- ❑ Peer trainers/counselors
- ❑ Research
 - Pre-employment medical exams
 - Members medical claim data
 - Retirees' survey



Male transit retirees (TWU) vs male retirees from National Health Interview Survey (NHIS)



Heart Disease



Station Agent/ Cleaner

Train Operator/ Conductor

Bus Operator

Bus Maintainer

Maintenance Of Way

Car Maintainer/ Inspector

Other

U.S. male retirees (NHIS)

Healthy Direction/Small Business Study

- RCT in 24 Boston area manufacturing SME
 - Integrated intervention versus minimal-intervention control (smoking only)
 - Health behaviour targets:
 - fruit and vegetable consumption
 - red meat consumption
 - multivitamin use
 - physical activity
 - smoking
 - OH&S targets: hazardous occupational exposures and OH&S management
-

Healthy Direction/Small Business Study

- Greater health behaviour improvements for integrated intervention for every outcome (compared to control group)
 - Improvements statistically significant for multivitamin use and physical activity
 - Greater changes in hourly vs salaried workers for fruit and vegetable consumption and for physical activity
-

New publication on integrating occupational health & health promotion

Sorensen G, Landsbergis PA, Hammer L, Amick B, Linnan L, Yancey A, Welch L, Goetzel R, Flannery K, Pratt C and the Workshop Working Group on Worksite Chronic Disease Prevention. Preventing Chronic Disease at the Workplace: A Workshop Report and Recommendations. *American Journal of Public Health*, December 2011, Vol. 101, No. S1, pp. S196-S207.

<http://ajph.aphapublications.org/doi/abs/10.2105/AJPH.2010.300075>

Examples of healthy work organization policies and environmental supports



Policy/Environmental Support	Rationale
Flexible work schedules	Help employees manage job demands, increase control, reduce stress
Shift schedules—rotate forward, not back	Minimize sleep deficits
Meal and break policies and facilities	Allow time and space for healthy eating
Culture of bi-directional communication and goal-setting	Promote employee control, stress management
Safety performance standards, regular audits, training	Minimize risk for job-related injury, strain (keep physically active, off medications)
Jobs designed with variety, career-paths	Encourage skill development, sense of purpose, self-efficacy; avoid stress, anxiety
Work stations and office layout design, meeting practices to encourage movement	Maintain physical activity; promote musculoskeletal health
Mental health/stress training for supervisors	Constructive recognition, response, and referral for distressed employees; avoid depression, unhealthy stress responses

Comparison of U.S. to other countries

- ❑ 168 countries offer guaranteed paid pregnancy leave to women
- ❑ 137 countries mandate paid annual leave (vacation)
- ❑ 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)
- ❑ 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