

UEMS Occupational Section
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Challenges to Global and European Occupational Health Services in the Era of Globalization

By Professor JORMA RANTANEN, MD, PHD, PhDhon
Director General emeritus of the Finnish Institute of Occupational Health, FIOH
Former President of ICOH

Measuring globalisation

KOF Index of Globalization

(ETH Zurich)

The Index measures the three main dimensions of globalization:

- **Political**
- **Economic**
- **Social**

In addition to three indices measuring these dimensions, it calculates an overall index of globalization and sub-indices referring to:

- **Actual economic flows**
- **Economic restrictions**
- **Data on information flows**
- **Data on personal contact**
- **Data on cultural proximity.**

OBS! Data are available on a yearly basis for 207 countries over the period 1970 – 2013:

Top 15:

The Netherlands	Hungary
Ireland	Canada
Belgium	Finland
Austria	Portugal
Switzerland	Norway
Singapore	Cyprus
Denmark	Spain
Sweden	

Maastricht Globalisation Index, MGI

(University of Maastricht, the Netherlands)

- **Political**
- **Economic**
- **Social & Cultural**
- **Technical**
- **Ecological**

OBS! Data available on 117 countries:

Top 15:

Belgium	Malaysia
Netherlands	France
Switzerland	Norway
United Kingdom	Jordan
Austria	Denmark
Germany	Israel
Ireland	Spain
Sweden	

Enterprises of the World (World Bank 2015)

Multinationals

- Total number: about 60 000 to 80 000
- Employment 6 million workers
- Economy: Contribute to 25% of the world total GDP

Micro-, small and and medium-sized enterprises, MSMEs

- 365-445 million enterprises
 - 25-35 million formal
 - 285-345 million informal
- 85-99 % of all enterprises in the countries
- Create 4 out of 5 new jobs
- Provide 45%of total employment in EEs
- Contribute to 33% of GDP in EEs

Impact of globalization

- Enterprises will be fragmented, size distribution widened and shift in balances
- 600 million new jobs needed by 2030. Virtually all should be provided by MSMEs.
- Working conditions often poor
- Sustainability weak: <5 yr average life for 1/3, 5 yr for 1/3 and over 5 yr for 1/3.

10 + 1 Grand challenges of the post-industrialising work life

1. Globalization and internationalization, continuous change and insecurity: growing competition,
2. **Demographic change** & inclusive work life (growing mobility, vulnerable groups, ageing, disabled, young workers, feminization, migrants, child workers)
3. **Global stress epidemic and psychosocial quality of work**
4. **NCDs, work-related diseases** and new occupational diseases
5. New technologies, including nanotechnologies
6. **Old and new physical and chemical exposures** including ergonomics
7. Biological agents and new infections
8. Climate change and green jobs
9. Innovative and creative work life, **growing demands for competence and productivity, multi-skills** and their continuous development through life-long learning
10. Reconciliation of work life and other sectors of life (family, social, leisure)
11. Business ethics slipping

1.1 billion non-farm jobs
Created, 84% in developing
Economies: Elimination of
poverty

245 million
increase of college graduates
in the labor force

40 % of labour force growth
in ICs was foreign borne

1 in 5
new non-farm jobs in
developing economies
associated with exports
(2000–10)

75 million young
unemployed 15-24 yr
in 2010

***A global labor market
emerges (1980–2010)***

**30% of current European and 47%
of US jobs disappearing by 2030**

3.5 billion
projected 2030 global labor force,
up from 2.9 billion today

38 million–40 million
potential shortage of college-educated workers in 2020

40 million
new health jobs

60%
share of India, other South
Asian nations, and Africa in
global labor force growth

45 million
potential shortage of workers with secondary
education qualified to work in labor-intensive
manufacturing and services in developing economies

360 million
additional older people who are not
part of the global labor force by 2030

***... and market challenges
intensify (2010–30)***

2 BILLION

1 BILLION

PEOPLE LIVING ON \$1.25
OR LESS A DAY

1990

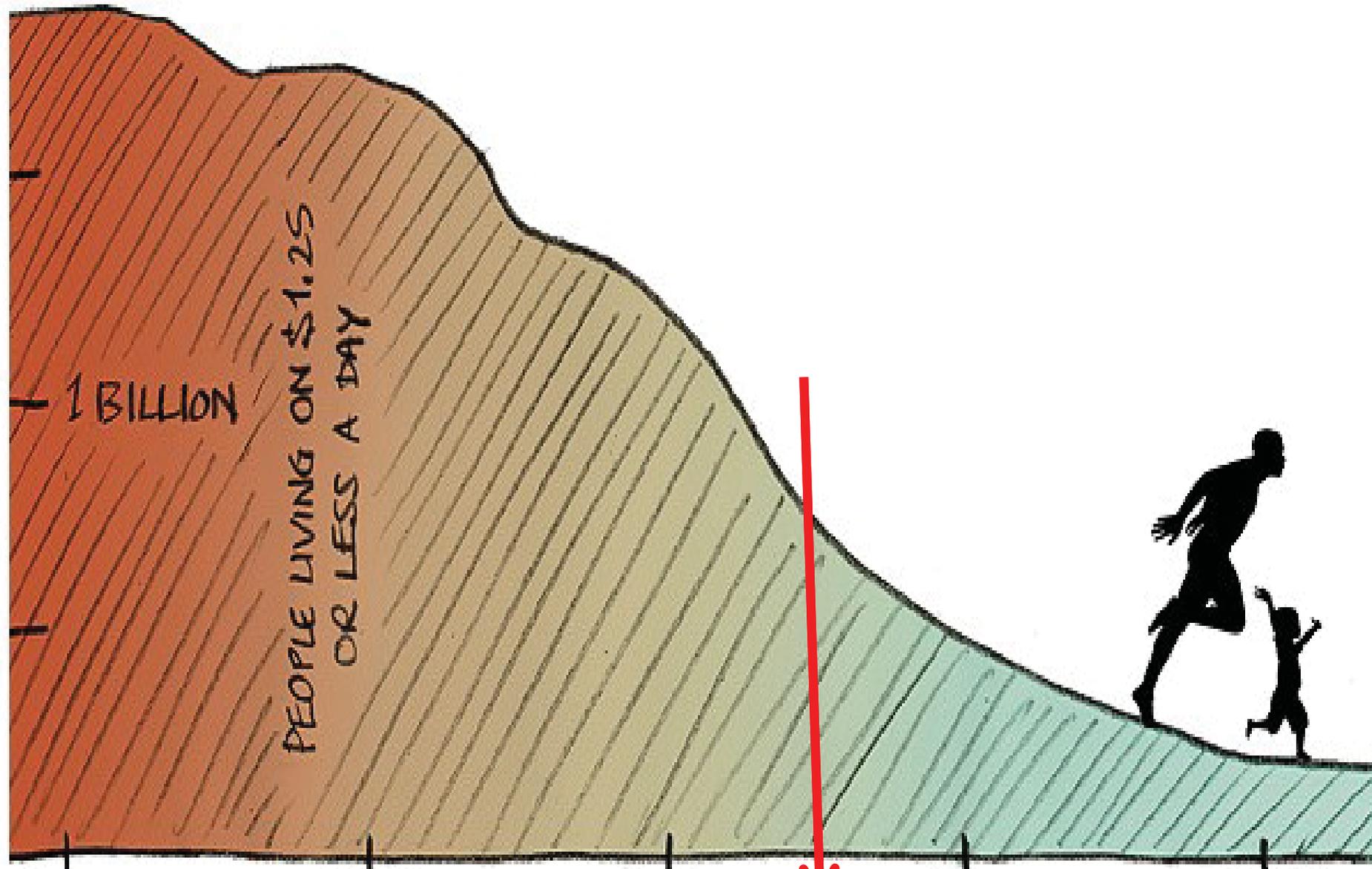
2000

2010

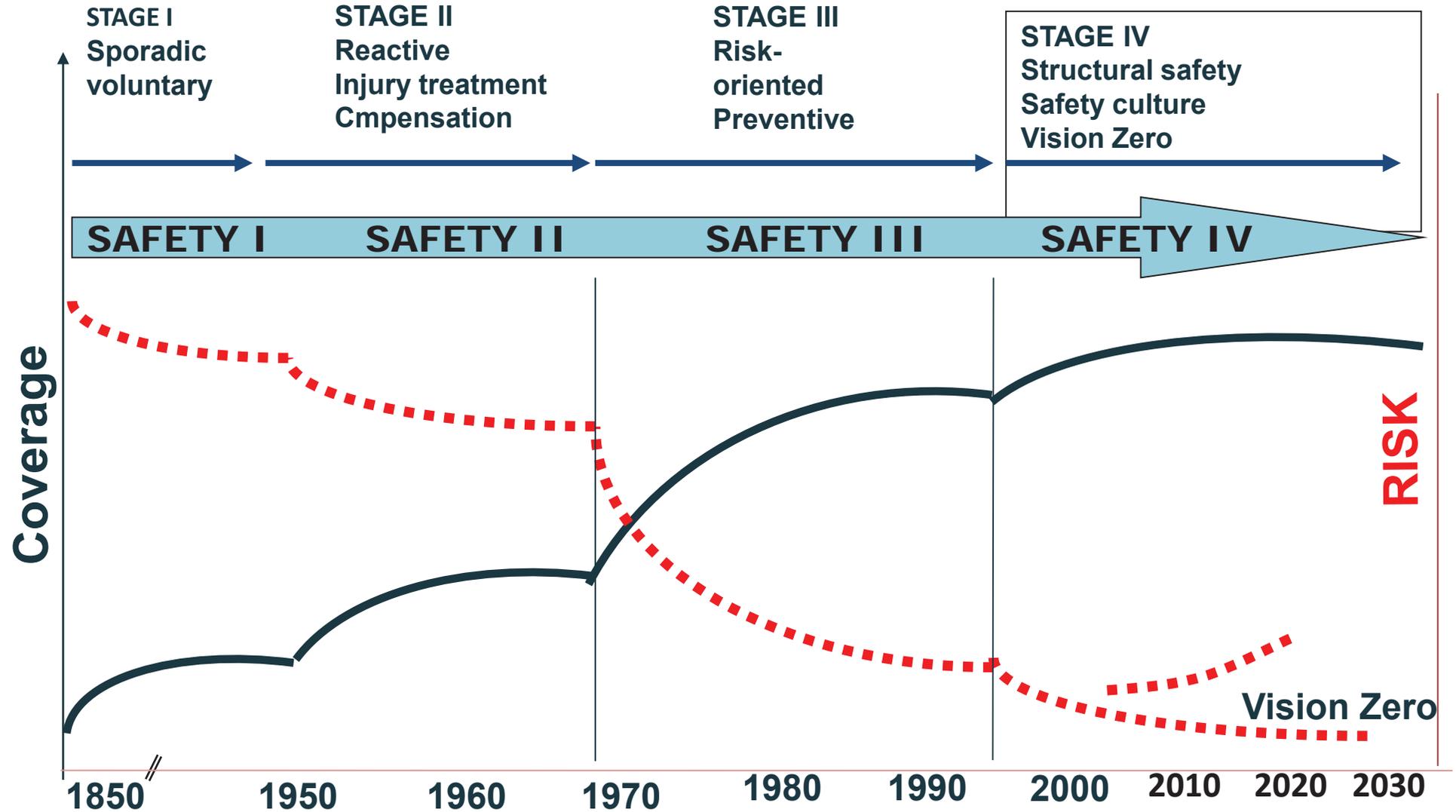
2020

2030

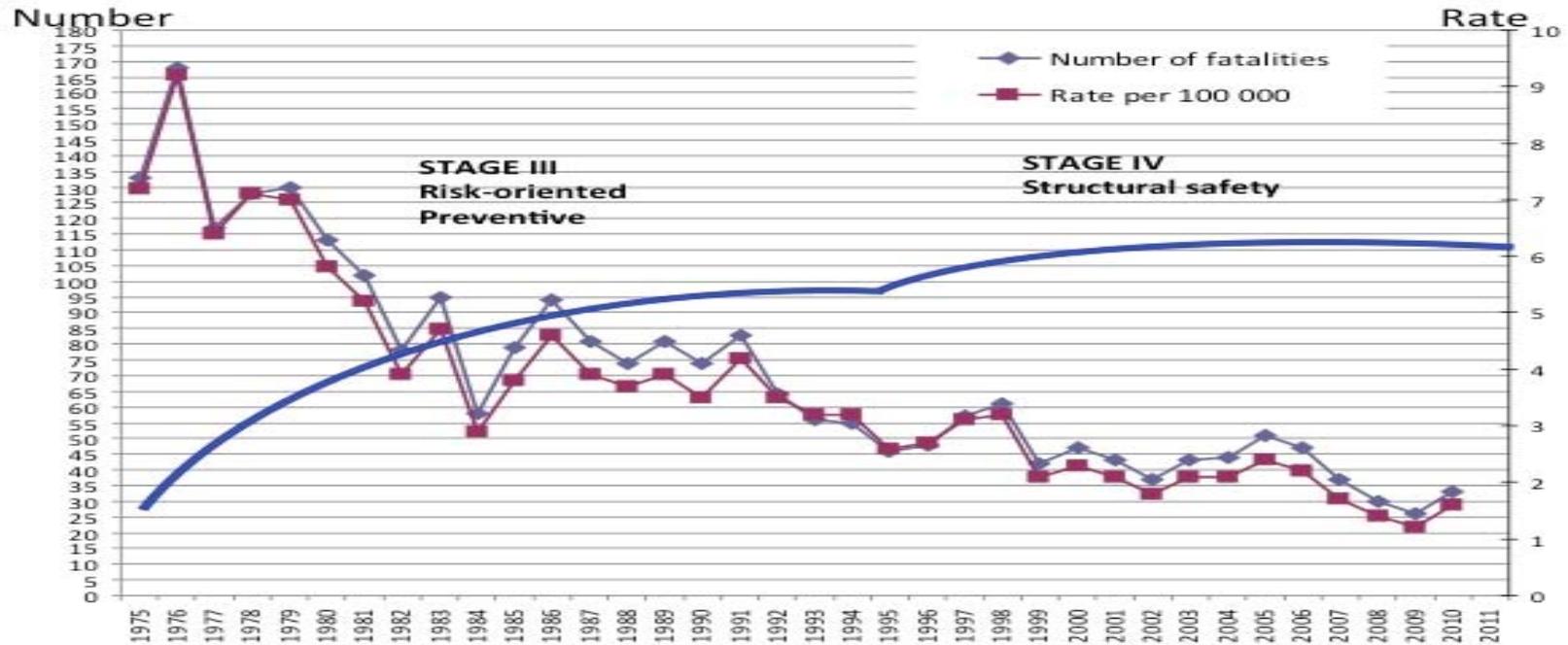
Jon Berkeley/The Economist



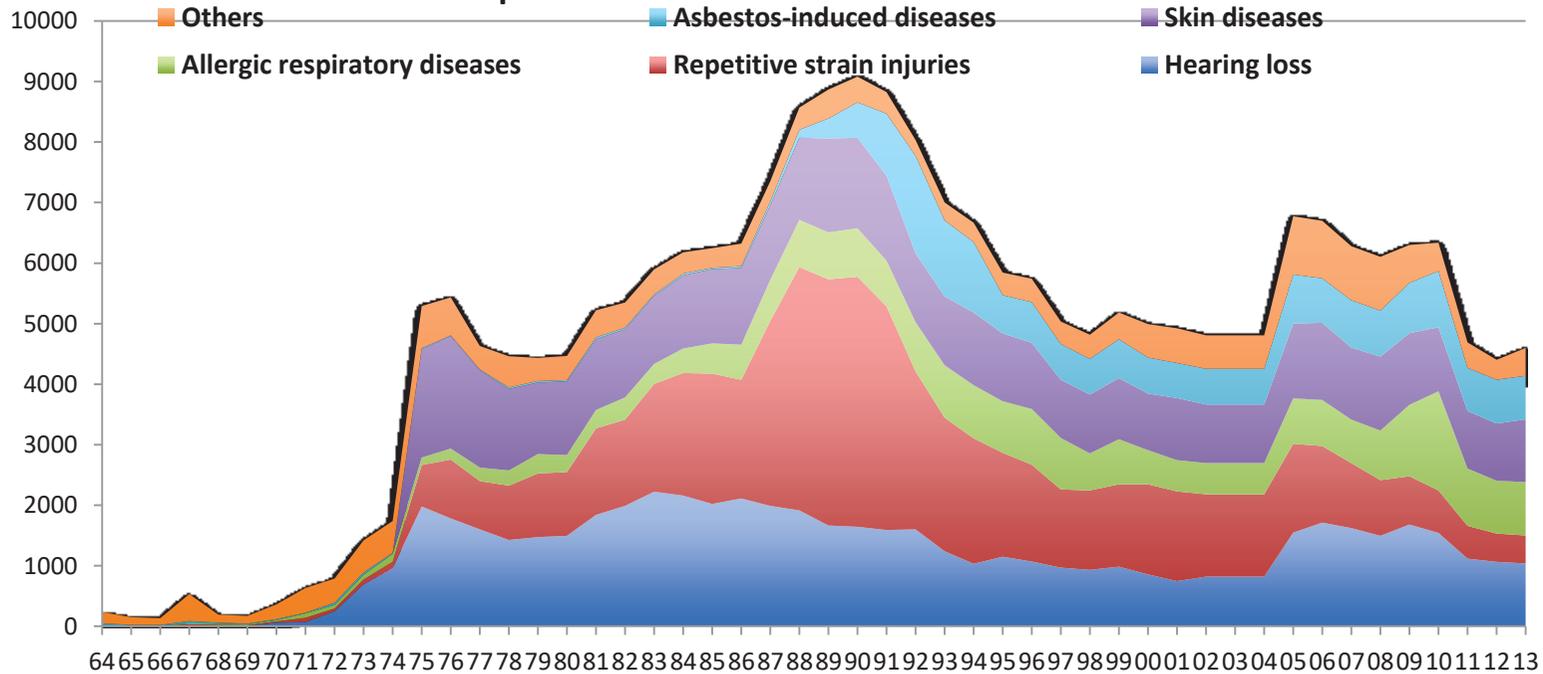
Evolution of Safety & Health paradigms



Fatal occupational accidents and rates 1975-2010. (The rate has since then declined to 0.8/100000)



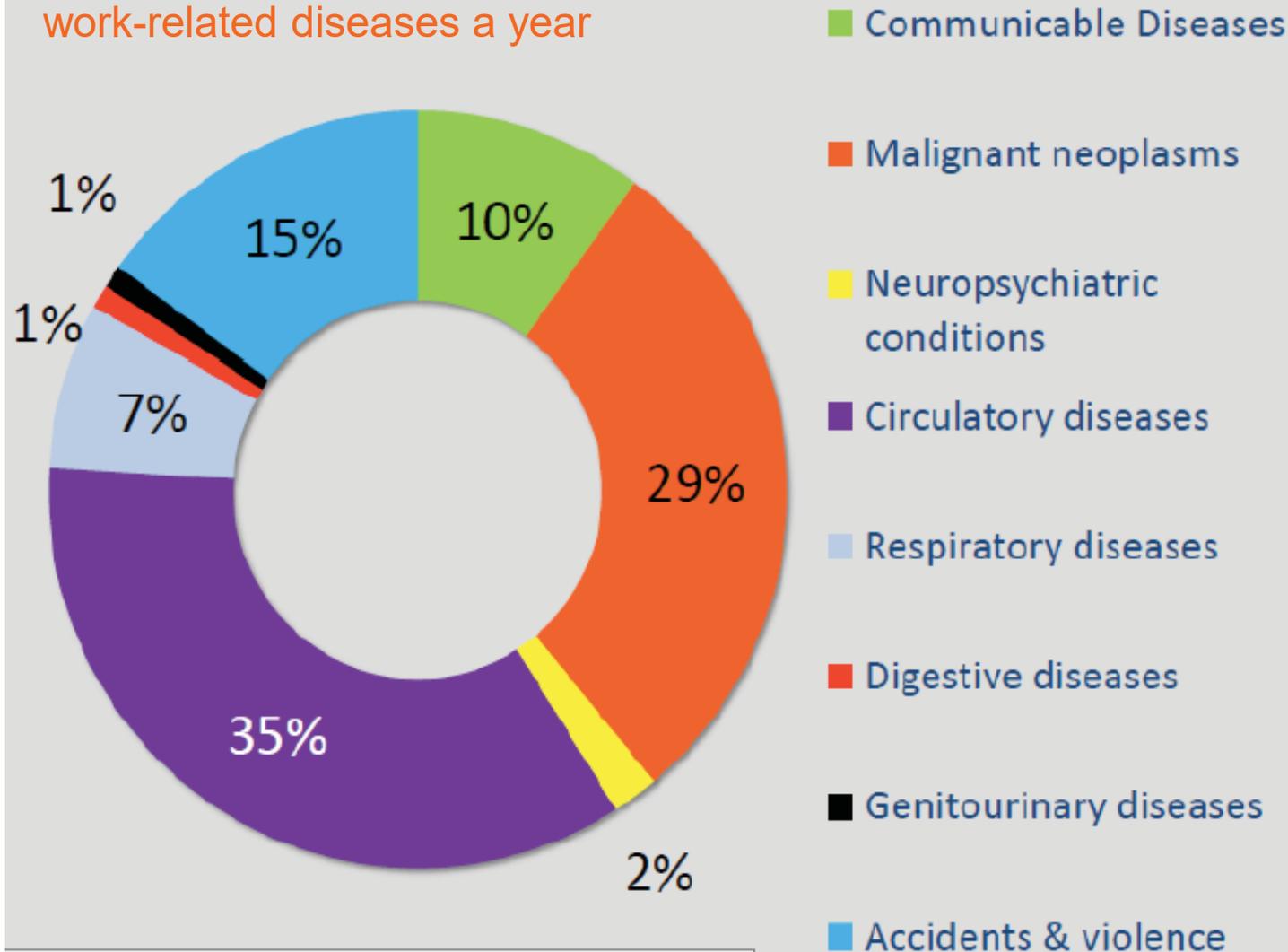
Numbers of notified occupational diseases 1964-2013





% Work-related mortality

2 million deaths from occupational and work-related diseases a year



See "Global estimates": <http://aoo.al/0xSHGI>

New health outcomes related to globalization

Job insecurity

Chronic stress

Elevated morbidity & mortality

CVDs,

Cancers (hazardous
chemicals, radiations)

Working hours

Shift work

Diabetes

CHD & stroke

Breast cancer?

Lowered psychological
work ability

Mobility related diseases

Pandemics

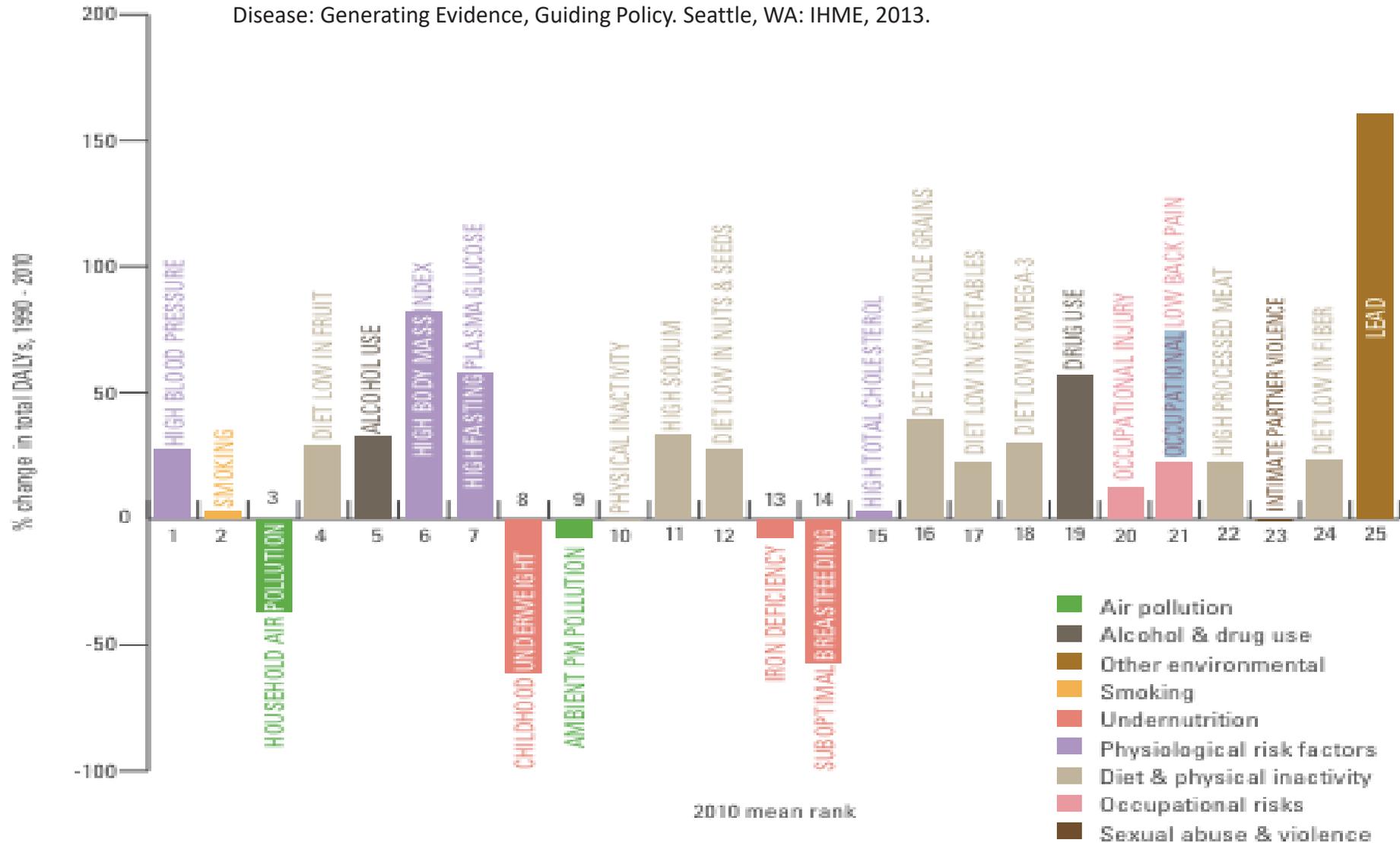
Microbials-related

Migrants diseases

(SOURCE

Figure 16: Rankings of global DALYs for top 25 risk factors, 1990-2010

Source: Institute for Health Metrics and Evaluation. The Global Burden of Disease: Generating Evidence, Guiding Policy. Seattle, WA: IHME, 2013.

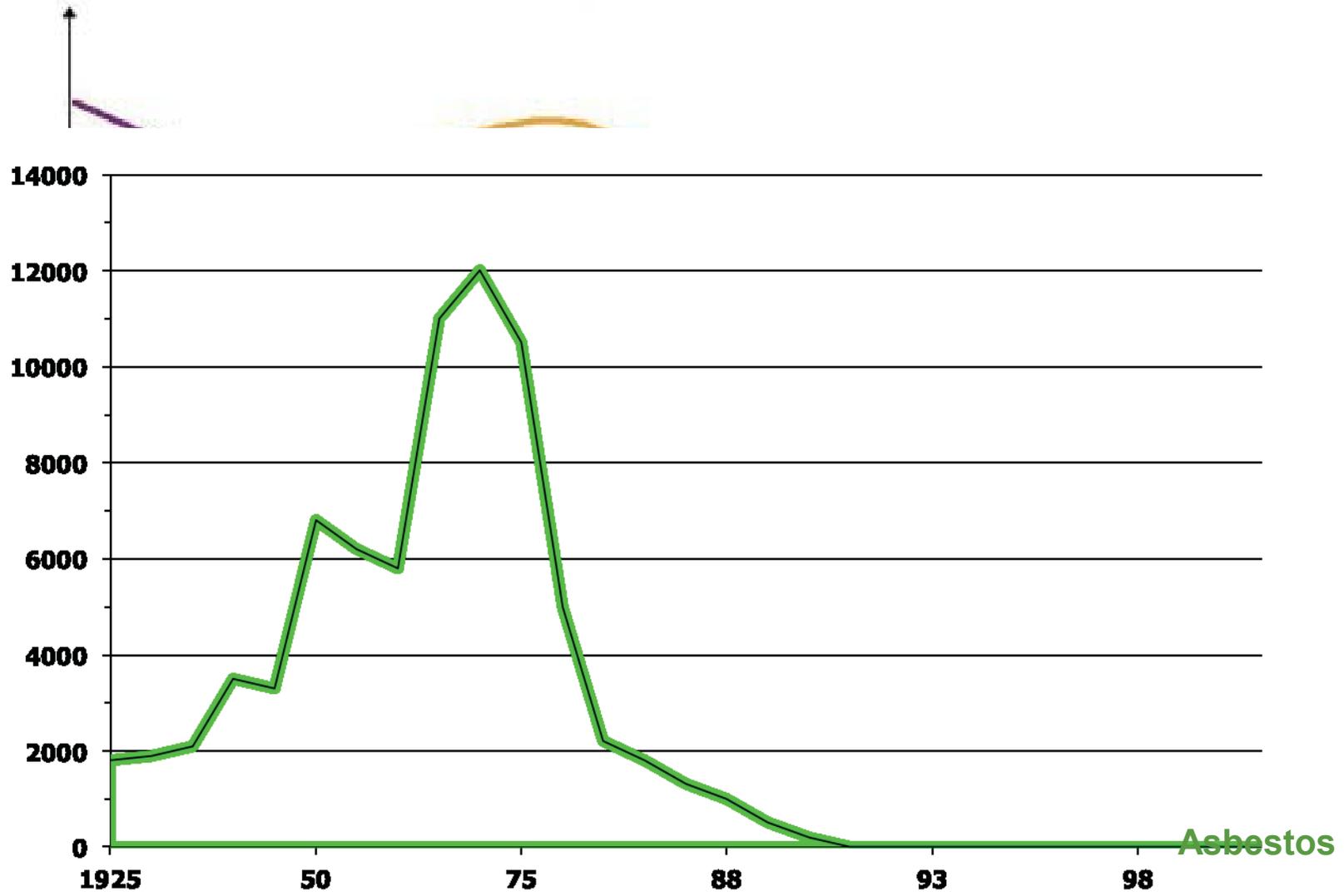


Global loss of health by occupational causes

(Takala et al World 2014)

- Globally, more than 2.3 million people die each year from occupational accidents or work-related diseases (2 million)
- 317 million occupational accidents a year (86 000 a day) 1000 worker deaths for injuries and 5 600 for illnesses every day
- 2 % of all Daly loss
- 4 to 6% of annual GDP is lost as a result of occupational diseases and accidents (5% in Europe)

Risk / Work Environmental problems



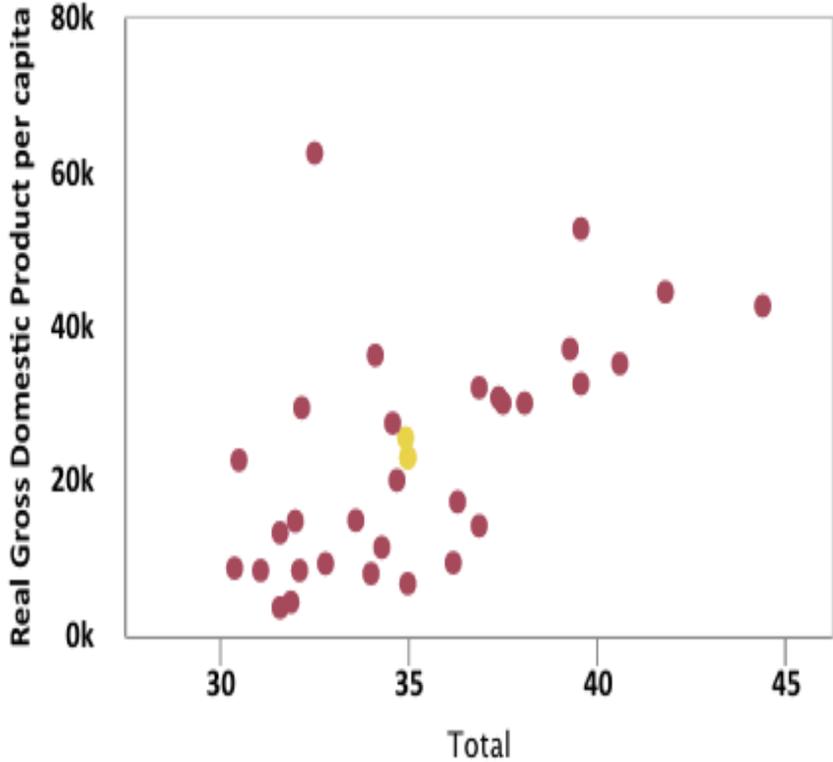
Total, years

Working life expectancy

1	Iceland	44.4
2	Switzerland	41.8
3	Sweden	40.6
4	Netherlands	39.6
5	Norway	39.6
6	Denmark	39.3
7	UK	38.1
8	Germany	37.5
9	Finland	37.4
10	Austria	36.9
11	Portugal	36.9
12	Cyprus	36.3
13	Estonia	36.2
14	Latvia	35.0
15	EU28	35.0
16	EU27	35.0
17	Euro area (18)	34.9
18	Euro area (17)	34.9
19	Spain	34.7
20	France	34.6
21	Czech Republic	34.3
22	Ireland	34.1
23	Lithuania	34.0
24	Slovenia	33.6
25	Slovakia	32.8
26	Luxembourg	32.5
27	Belgium	32.2
28	Poland	32.1
29	Greece	32.0
30	Romania	31.9
	Italy	29,0

GDP per capita (Y) and working life experience (X)

Euro per capita, years



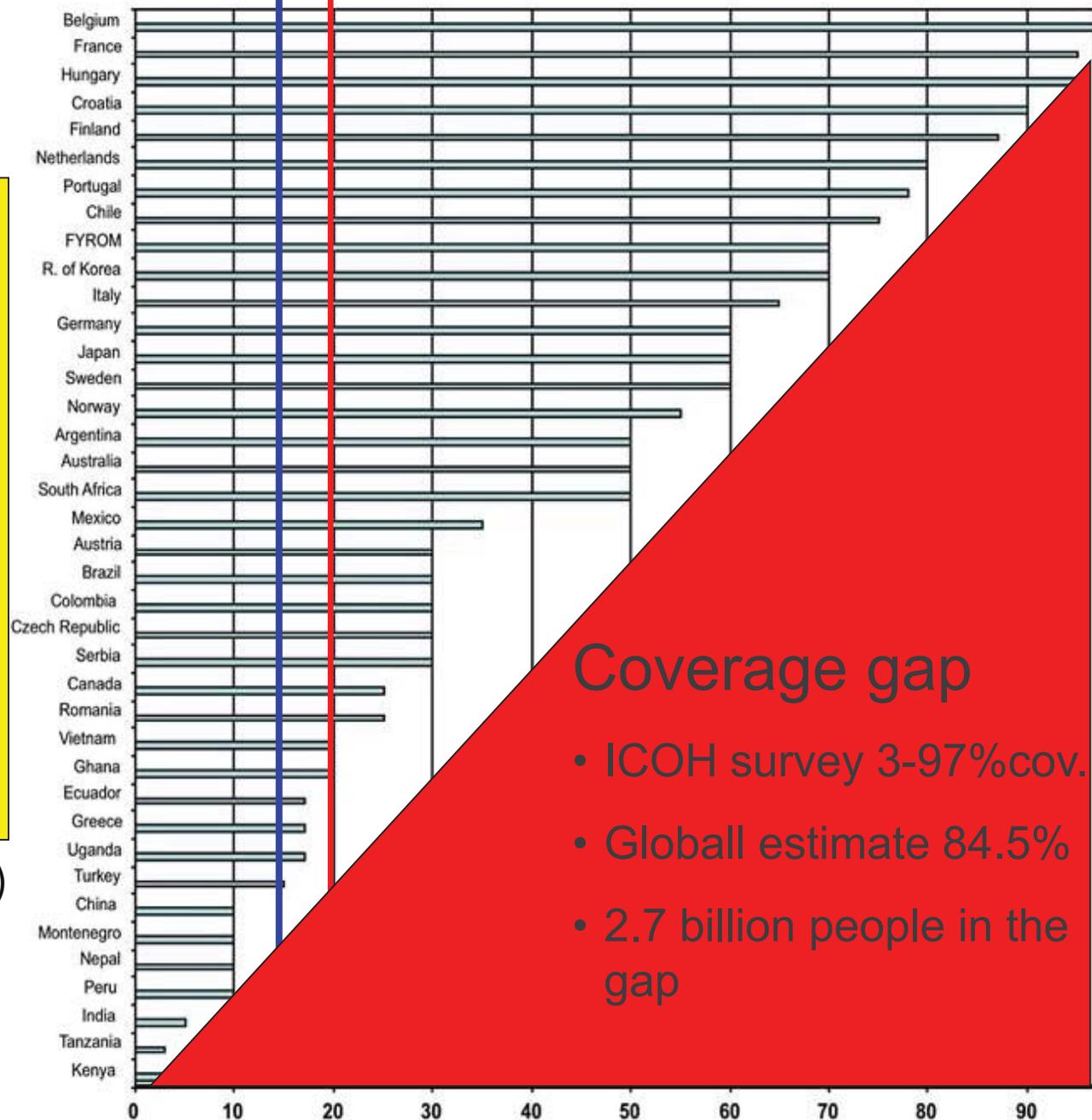
World average max.

Survey average

Coverage of workers by OHS in the world ICOH NS 47 Country survey results:

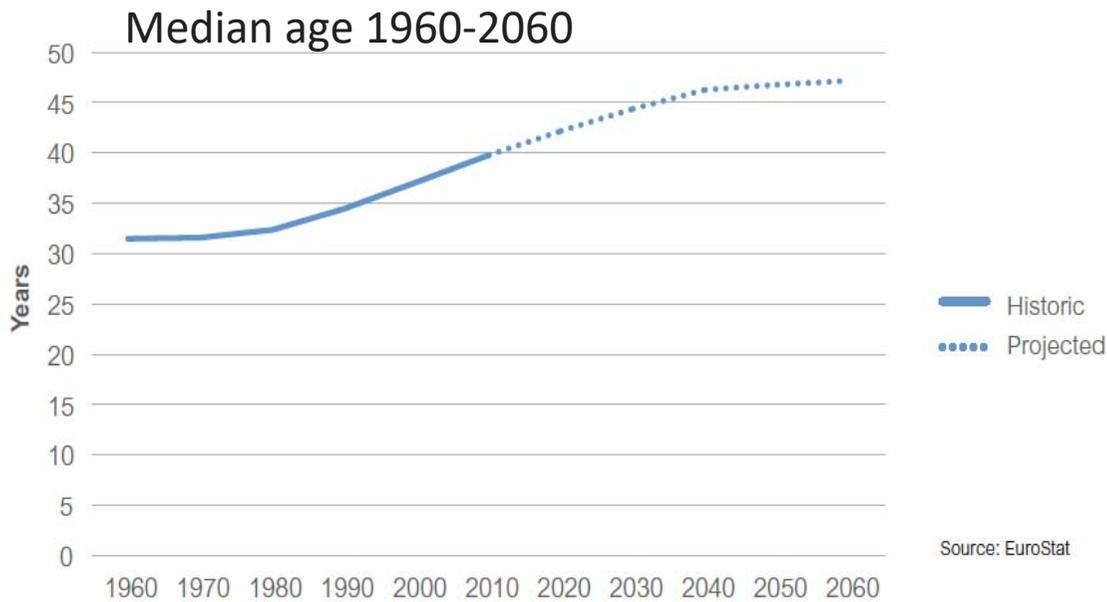
- OHS policy in 70% of countries
- >50% coverage in 38% of countries
- Variation in coverage 3% - 100%, average 19%
- Estimated world coverage at the maximum 15.5%

(Source Rantanen et al. 2013)



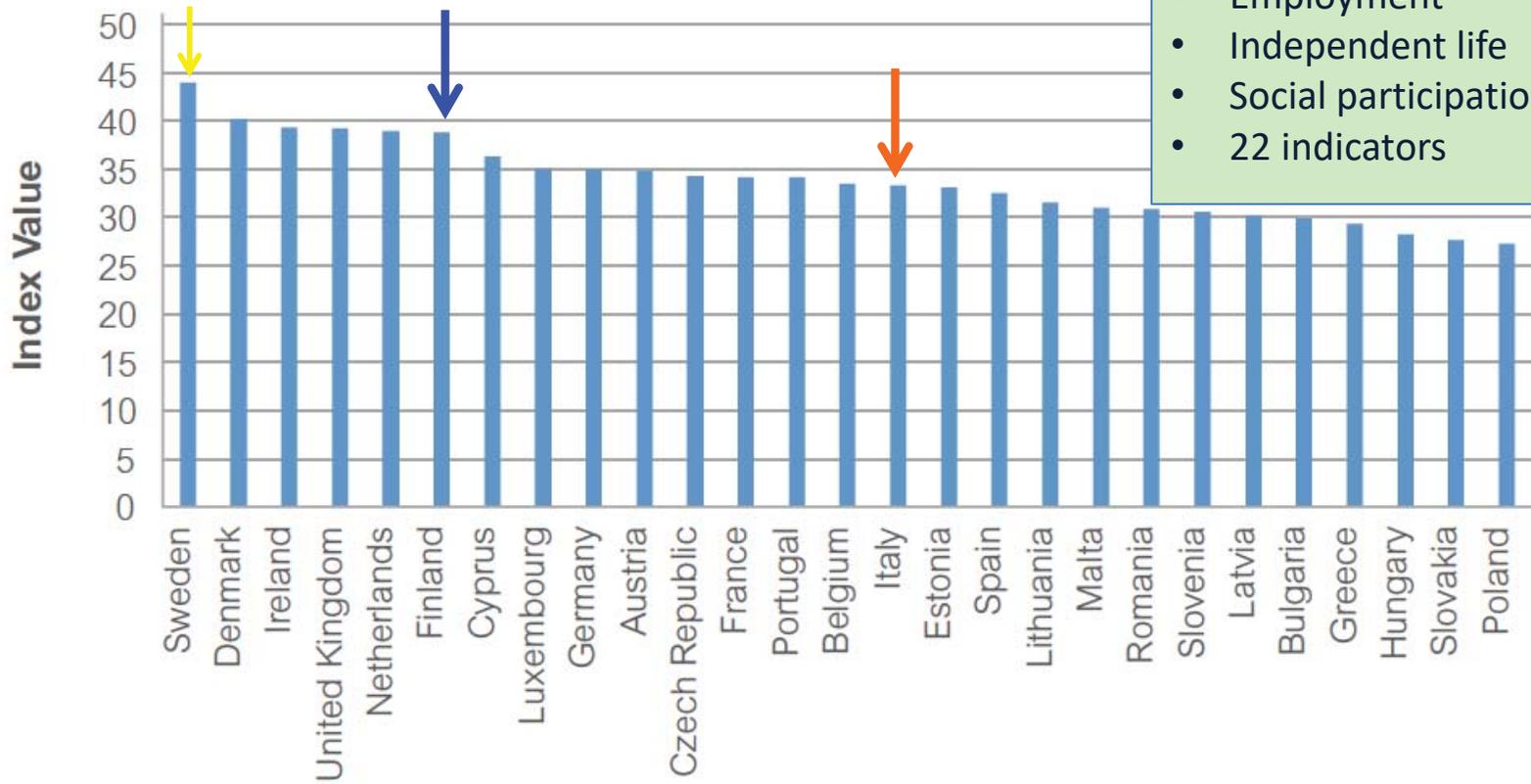
Coverage gap

- ICOH survey 3-97% cov.
- Global estimate 84.5%
- 2.7 billion people in the gap



Demography

- 1/6 of Europeans was 65+ in 2012
- In 2060 1/3 will be 65+
- Historic ageing: Increase in median age 8.3 years since 1960 = 4 hrs every day
- Will continue at 3.4hr/day by 2060.



Active ageing index

Three domains:

- Employment
- Independent life
- Social participation
- 22 indicators

Examples of vulnerable groups of workers (Rantanen et al. HIAP 2012)

Group	Typical vulnerabilities	Global estimate & trend	Reference
Young workers 15-24	Short work experience, limitations to physical work load, elevated risk of accidents (males), youth discrimination, High risk of unemployment (75 million)	617 million Trend: Developed economies –, Developing countries +	ILO 2011
Female workers	Double workload Reproductive health Low pay, unpaid work, working poverty Precarious, part-time or informal status	1.28 billion (40% of global workforce) Trend +	ILO 2010
Aged workers 65+	High occurrence of chronic disease Physical working capacity declines Limitations to e.g. shift work Risk of unemployment and age discrimination	102.5 million (20% of all 65+) Trend +	UNCEAD 2010
Child workers	Age 10-14 or -17. Physical, chemical, biological and psychological hazards. Prevents participation in school	215 million Trend -	IPEC 2008, ILO 2012
Migrant workers	Short work experience, language difficulties, cultural adjustment, health problems, accident risks	105 million Trend +	ILO 2010
Workers with handicaps, chronic diseases and disability	Limitations in physical work ability, Vulnerability to hazardous exposures and workloads. Need for work and workplace adjustment, measure for work ability, health monitoring and follow-up	785 million (24% globally, 18.4% in the EU) Trend +	ILO 2010 Karjalainen 2003
Unemployed	Longer unemployment increases stress symptoms, psychological depression, elevates blood pressure and stress-related disorders sleep disorders, increased mortality from cardiovascular disorders and possibly suicides, and economic difficulties, affects working skill and competence and economy of the worker and family	200 million Trend; Short term + Long term -	ILO 2011 Canadian public health association
Working poor	Poverty increases numerous health problems, affects nutrition and work ability The poorest workers may not be able to pay for health services for themselves and family members..	900 million Trend -	Canadian public health association 1996 ILO 2011

Needs of the global occupational health system

Regulations with obligation to the employer for organization of OH services
(Ratification of ILO Convention No. 161) →Universally covering infrastructure=
“Occupational Health Services for All”

Translating the enormous OH research knowledge into workplace level OH practice

Training of about 600 000 new OH experts, OHPs, OHNs

Changing orientation from Occupational Medicine only to Comprehensive
Occupational Health

Risk of work disability pension by job or worker characteristics
 7-year follow-up, n= 3600, (Polvinen, Finnish Centre for Pension 2009)

Job /worker characteristics	Risk of disability pension
Age 50-55/30-39	7x
Education level basic/high	3.4x
Income €/year 10000/ >20000	1.7x
CHD+ /CHD -	5x
Physical fitness good/poor	4.2x
Psychological exhaustion yes/no	3.8x
Cynicism	2.6x
Heavy job/Light job	1.45x
Job satisfaction poor/good	2.62x

What causes work disability?

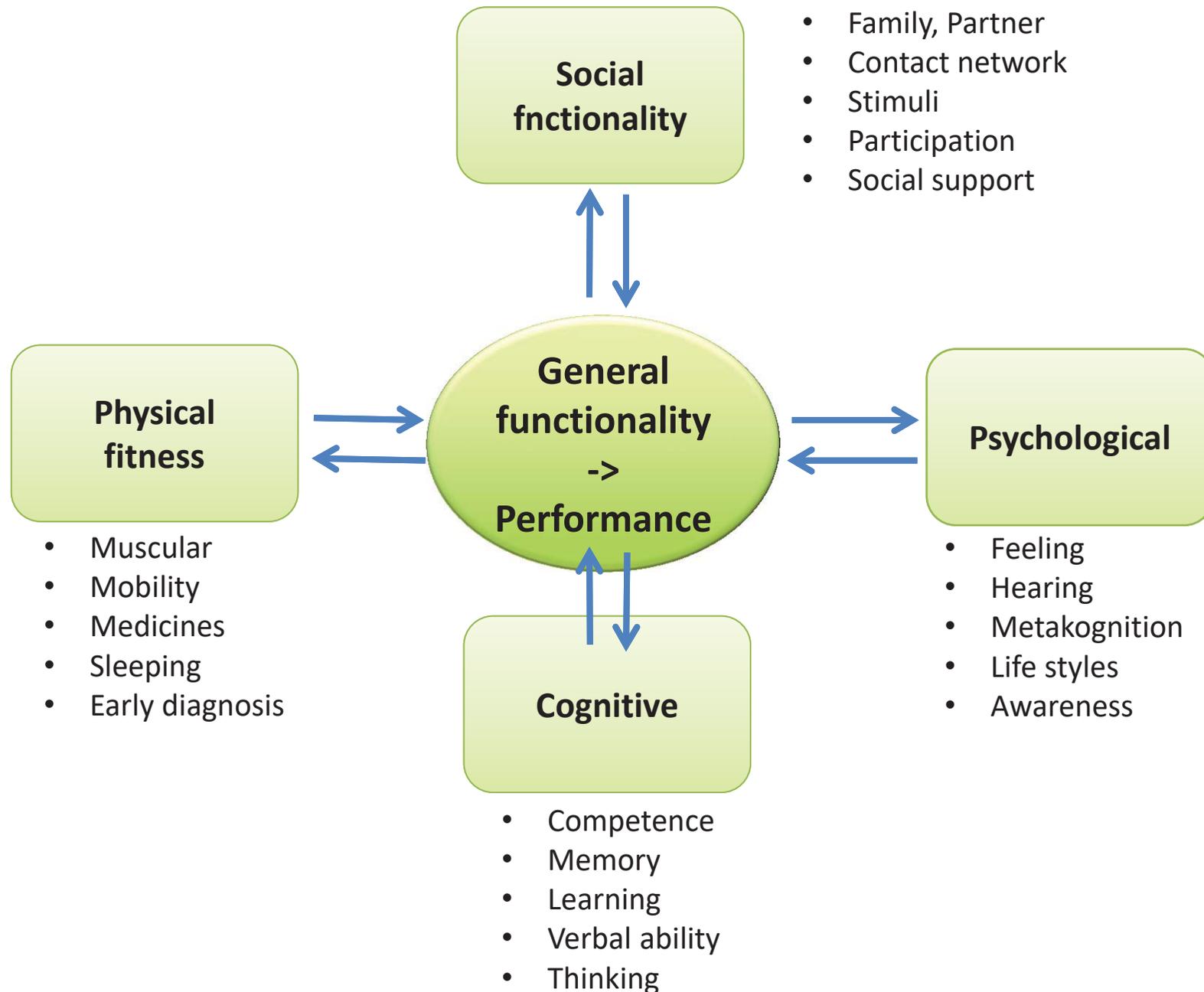
Sterud 2013 : 45% of work disability attributed to work.

(N= 18679, follow-up 3 years) Scand J Work Environ Health 2013;39(5):468-476)

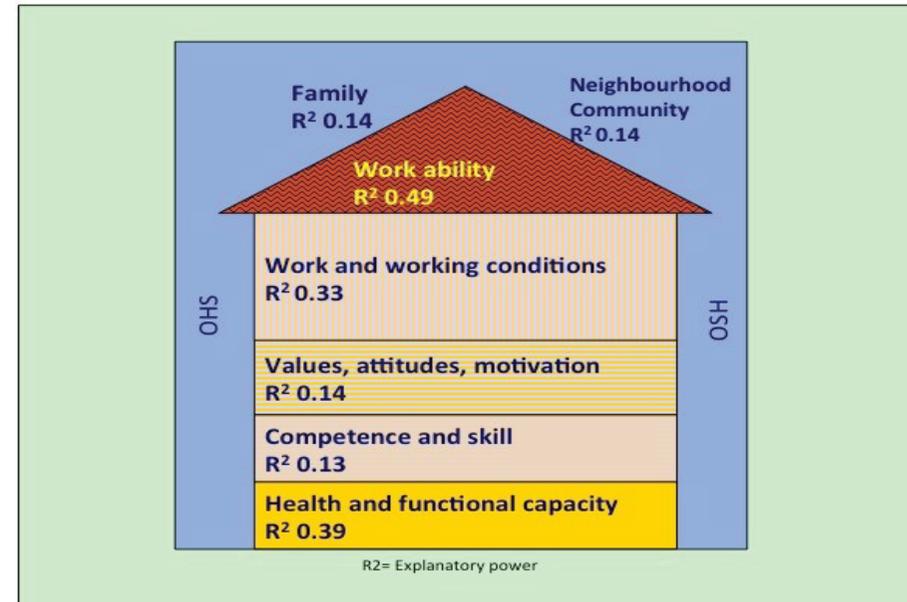
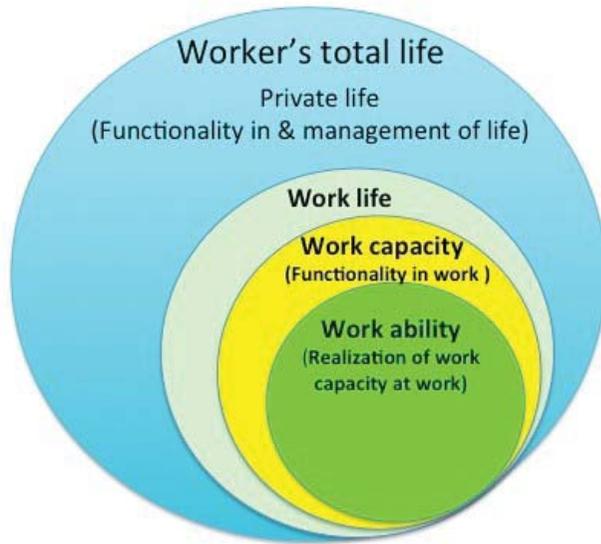
Factor	PAR (two models)
Low level of supportive leadership	9.57- 6.55
Bullying/harassment	7.55
Monotonous work	30.37-19.29
Neck flexion	12.90-11.17
Awkward lifting	15.04
Squatting/kneeling	10.03
Standing	29.93-21.28
Heavy lifting	3.06
Whole-body vibration	3.30-3.02
Heavy physical work	5.09-3.45

Low level of education, female gender, age, psychological distress, ergonomics

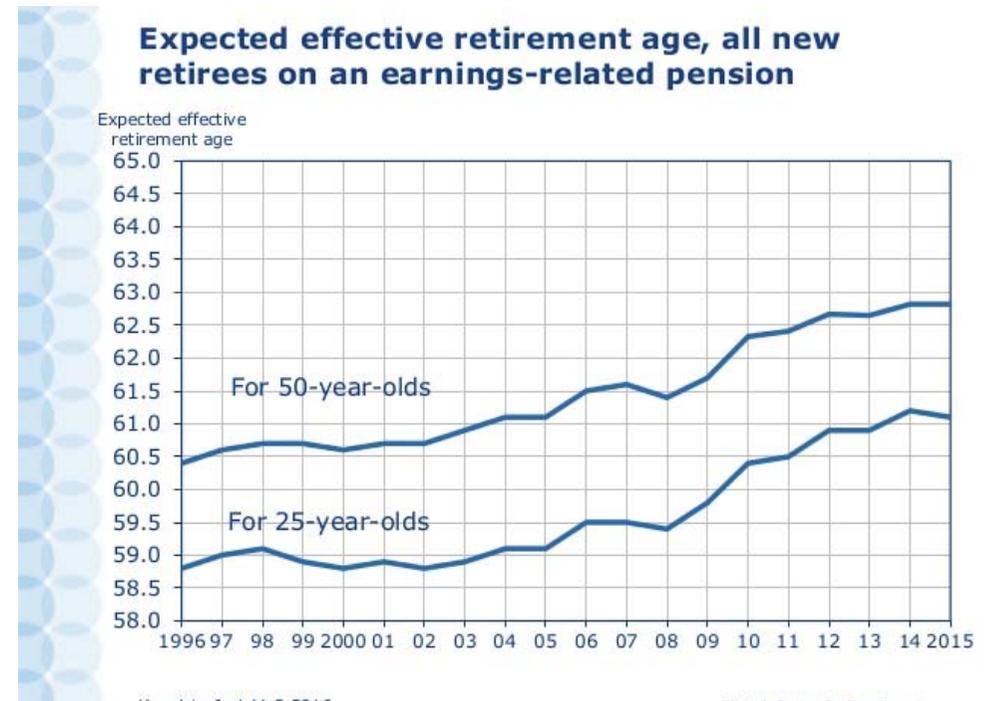
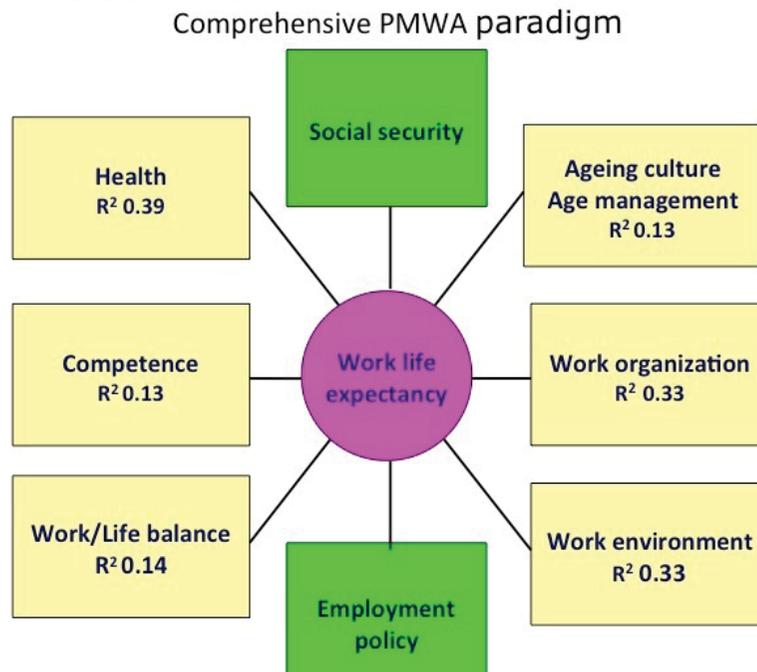
Paradigm (Rantanen, modified from ICF WHO 2004)



B. What is your advice on policies for sustainable work life for ageing workers?



Often **Work capacity** > **Work ability**. In optimal conditions (= Decent Work)

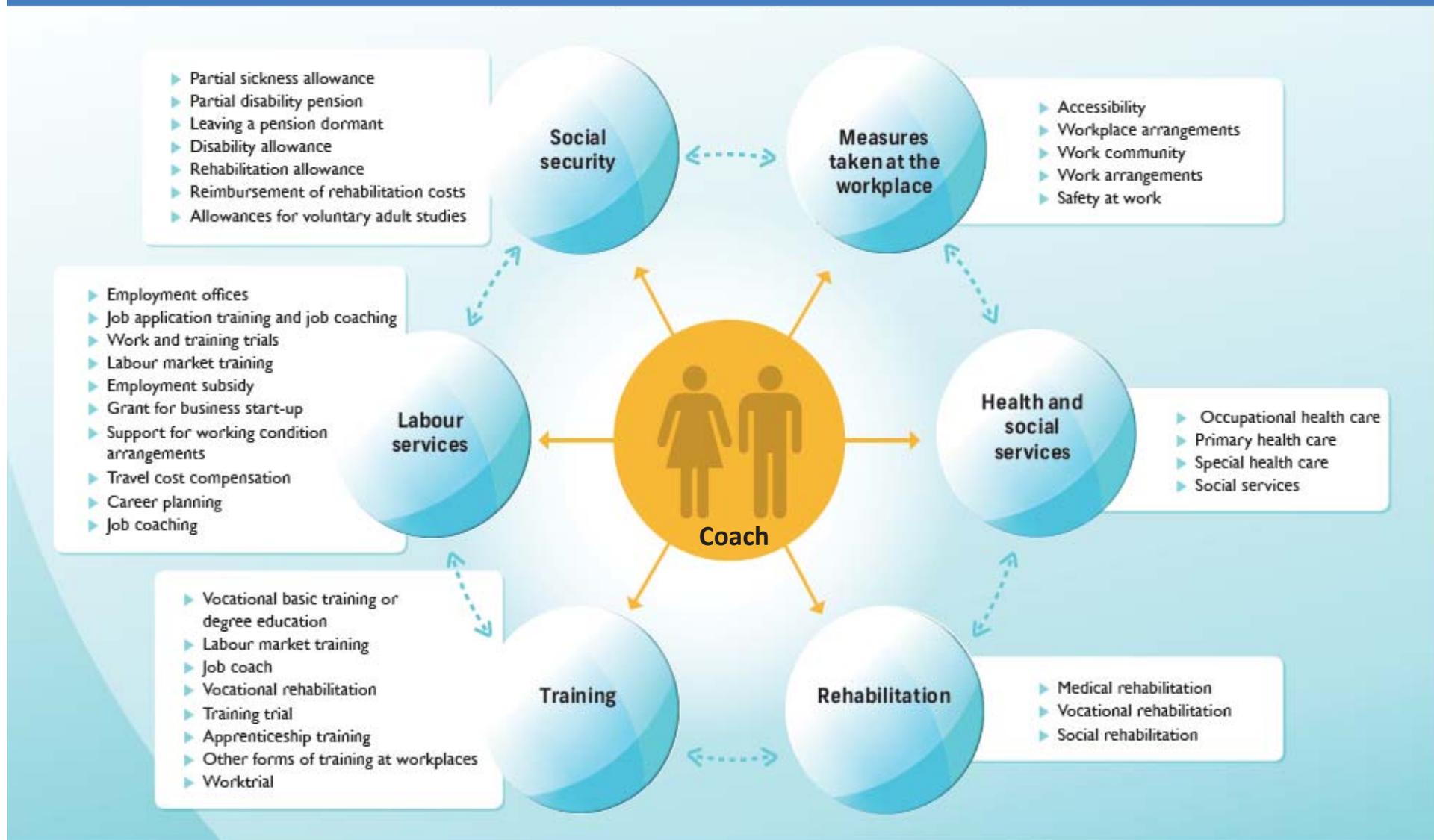


What to do for maintaining work ability of older workers?

- **Physical work ability:**
 - ✓ Regular exercise, low intensity aerobic, muscular strength
 - ✓ Weight control, healthy life styles, no tobacco, no alcohol
 - ✓ Good health care: promotion, prevention, care, rehabilitation
- **Psychological work ability:**
 - ✓ Continual stimuli, memory exercises, memory tools.
 - ✓ Social networking
 - ✓ Positive approach, respect, trust, zero tolerance for age discrimination
 - ✓ Cultural activities: Choir singing
- **Cognitive work ability:**
 - ✓ Continuous learning
 - ✓ Ensuring physical health
 - ✓ Collecting new experiences
 - ✓ Strengthening metacognition
 - ✓ Good sleep
- **Social work ability:**
 - ✓ Prevention of isolation (inclusive labour market);
 - ✓ Maintaining and development of social networks; hobbies, near-networks,
 - ✓ Active participation

The Finnish Model for Integrating to work of workers with lowered work ability

(MoSAH Finland 2015)



- **Responsible:** employer or employment office
- **Plans the methods to be used:** work ability coordinator
- **Up-to-date information on the various means, services and benefits:** open web service

OHS actions for PMWA

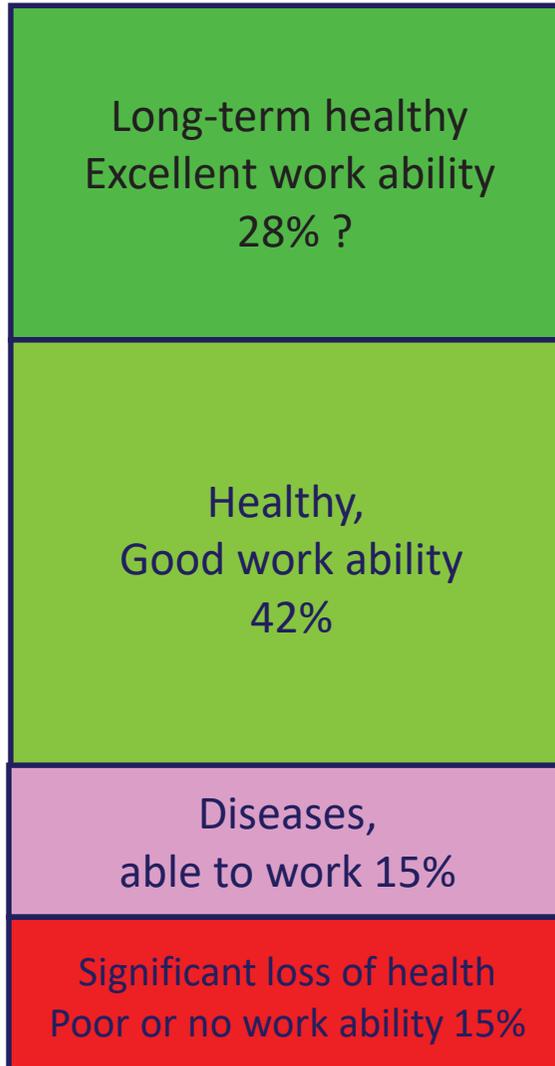
Individual & Group approach

- Basic check
- Age groups >45
- WHP
- LLL, HE
- PMWA

- Basic check
- Age groups >45
- WHP, HE
- LLL
- PMWA

- Early DG
- WRDs
- WRD Prevention
- Early intervention
- Good care
- PMW RTW

- Good care
- 2nd & 3rd Prevention
- Early rehab.
- PMWA



Long-term healthy
Excellent work ability
28% ?

Healthy,
Good work ability
42%

Diseases,
able to work 15%

Significant loss of health
Poor or no work ability 15%

For All: Resource generating
age management

Actions to Work & work environment

- Regular risk monitoring & assessment
- Structural prevention
- Primary prevention

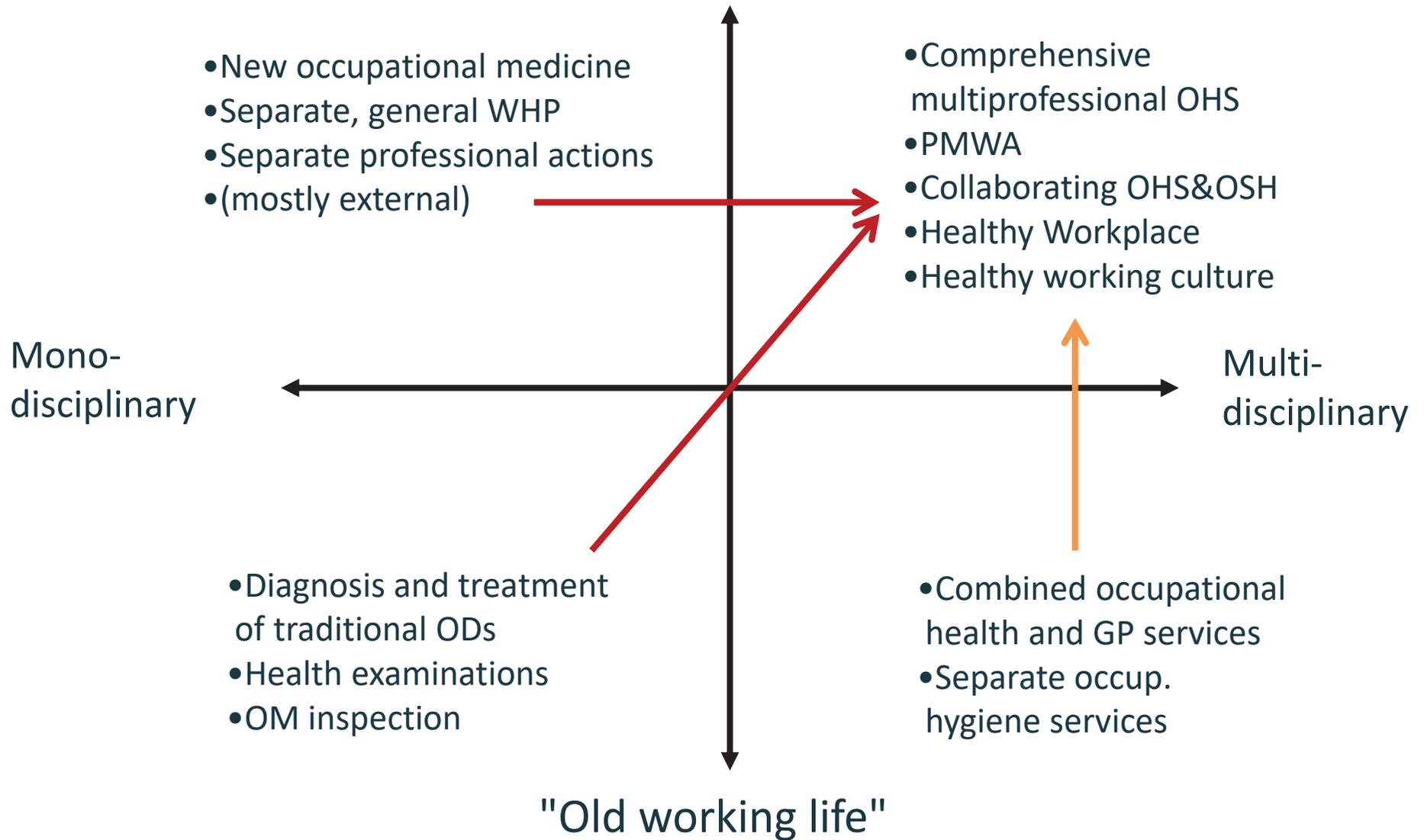
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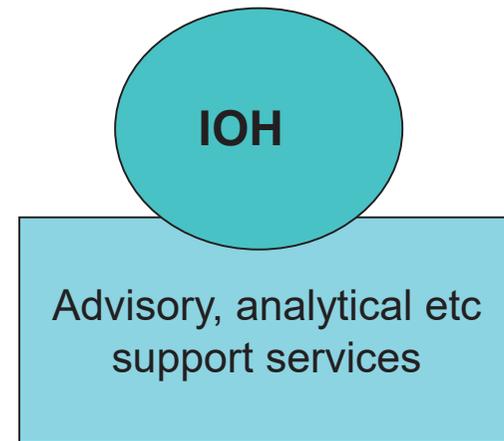
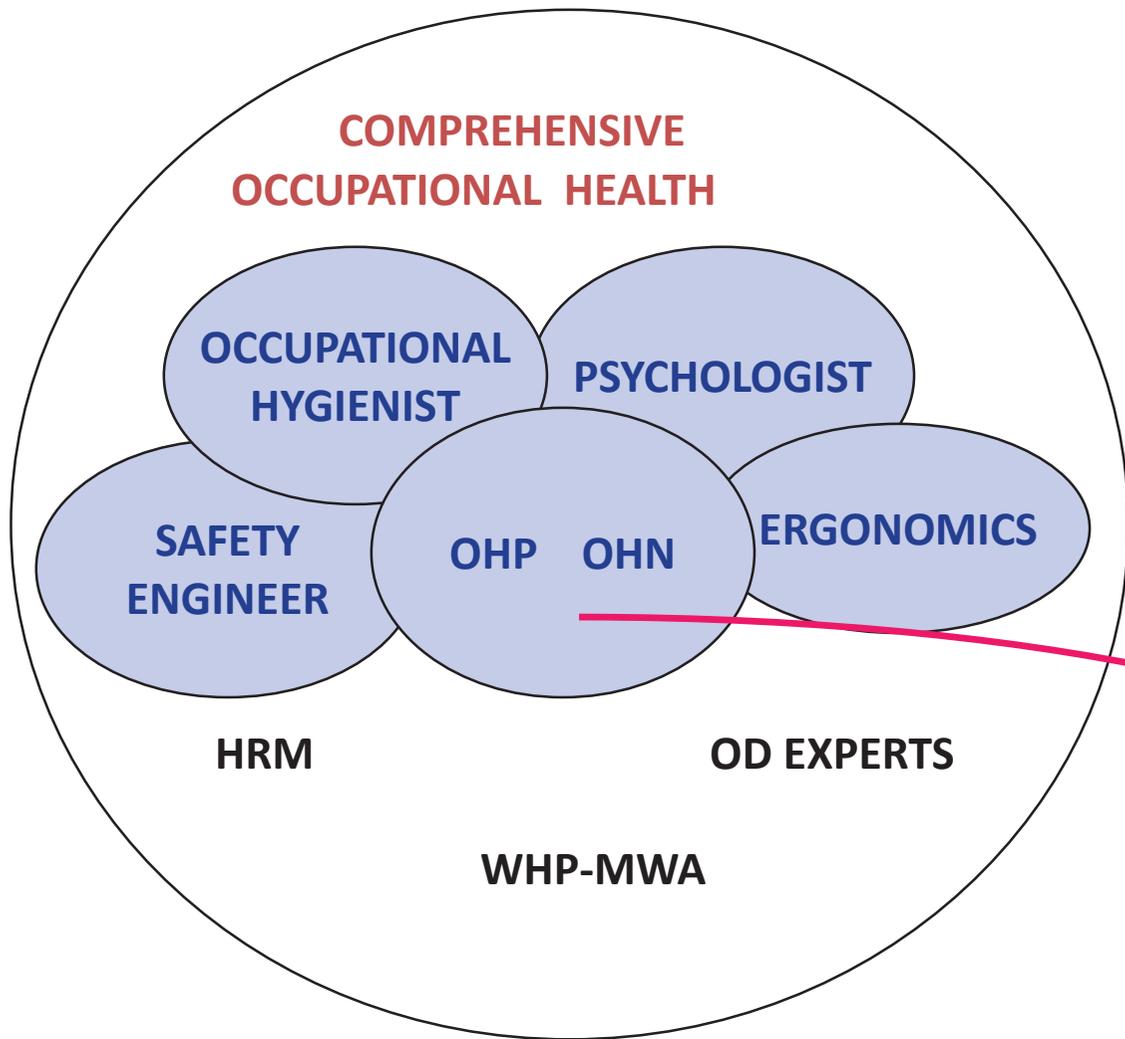
- Job placement
- Job adjustment
- Work practices

- Job and work environment adjustment
- Lightened work
- part time work

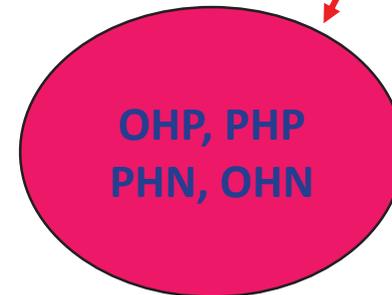


"New working life"





Company
resources



Special training needed!



Sustainable work – The future of working life in Europe

- Sustainable work ***means achieving living and working conditions that enable people to engage in and thrive in work over their lives.*** Making work sustainable throughout the life course in this way requires making accommodations between the requirements of work and the needs of individuals as both evolve over time.
- Sustainable work, ***as a concept that champions the improvement of working conditions and the adaptation of work to the needs of people, is an end in itself and needs no justification. But it has a clear economic imperative too.*** By making work more sustainable, it is hoped that:
 - *more people can be brought into the labour market;*
 - *workers are able and wish to remain in the labour market until a later age.*
- Neither of these goals is simple; ***each embraces multiple aspects of living and working conditions*** that interact to bring about work that is sustainable over the life course.
- The first, enabling more people to engage in paid work, means addressing issues that keep people out of the labour market. Such issues can include ***health problems or disabilities, skills gaps, responsibilities for caring for children*** or other relatives, and also ***difficulty in finding a job.***
- The second, allowing workers to remain longer in the labour market, is centred on ***job quality, the work environment itself*** and the interaction between these and the health of workers.

For all of us in the era of globalization....

Es ist nicht genug zu wissen; Man muss auch anwenden.

Es ist nicht genug zu wollen; Man muss auch tun.

Johan Ludvig von Goethe

Knowing is not enough; we have also to apply.

Willing is not enough; we must also do.



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