

# Well-being through work



**Finnish Institute of  
Occupational Health**



**Finnish Institute of  
Occupational Health**



# **New or increasing occupational exposure to chemical and biological agents**

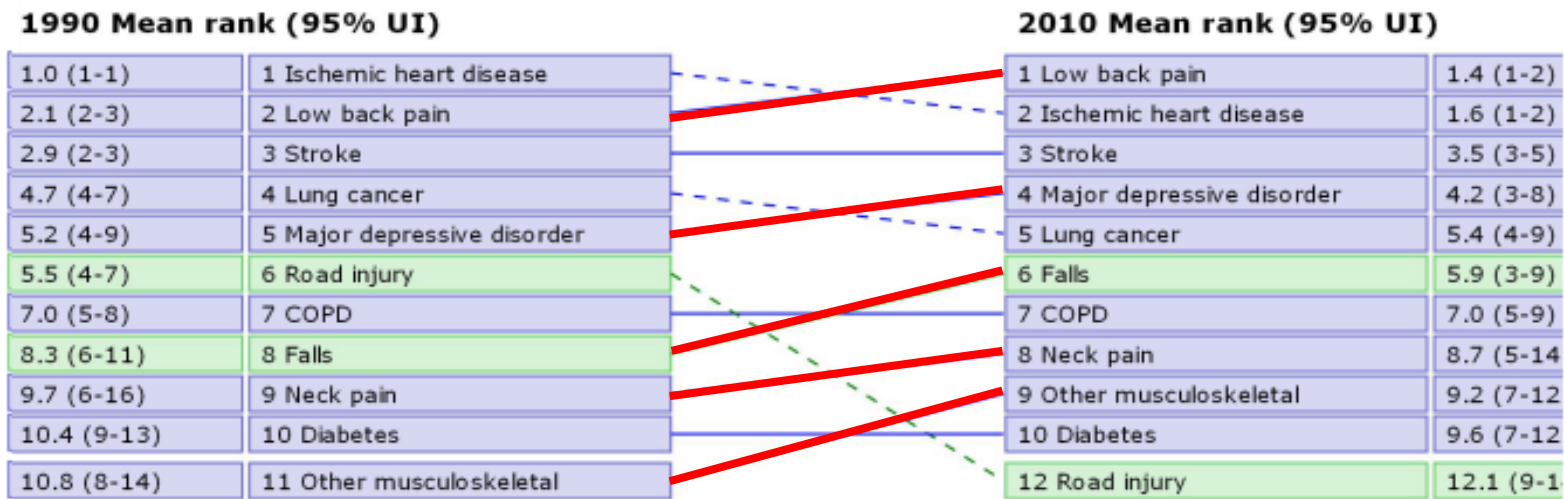
**Moving towards 2020: Priorities for OSH research  
in Europe for the years 2013-2020**

**Brussels, October 9, 2013**

Harri Vainio

# Where do we come from?

## Overall Disease Burden in Western Europe in 1990 & 2010

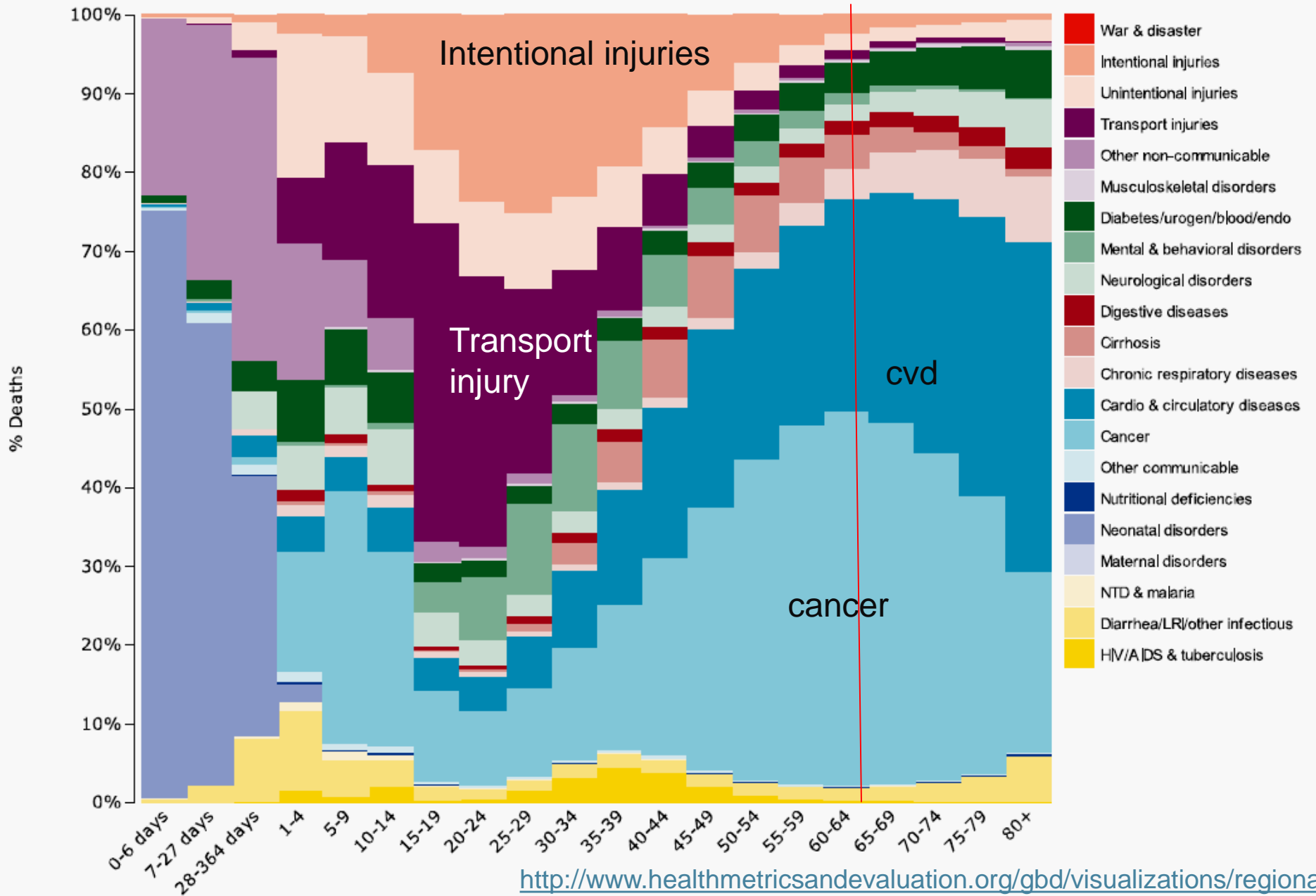


The **disability-adjusted life year (DALY)** is a measure of overall *disease burden*, expressed as the number of years lost due to disability or early death

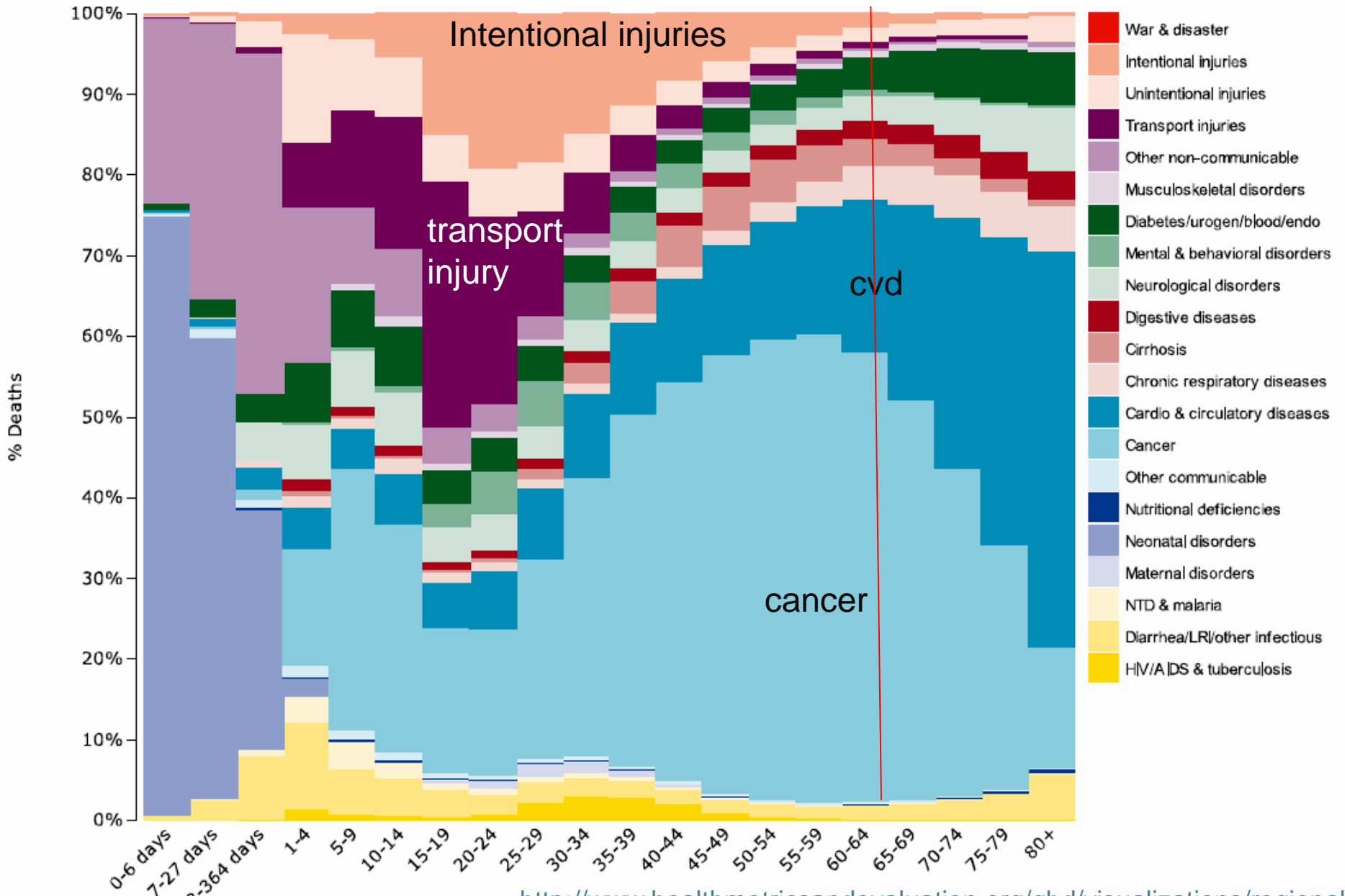
DALY = YLD (years lived with disability) + YLL (years of life lost)

<http://www.healthmetricsandevaluation.org/gbd/visualizations/regional>

# Causes of death among men in 2010 in Western-Europe

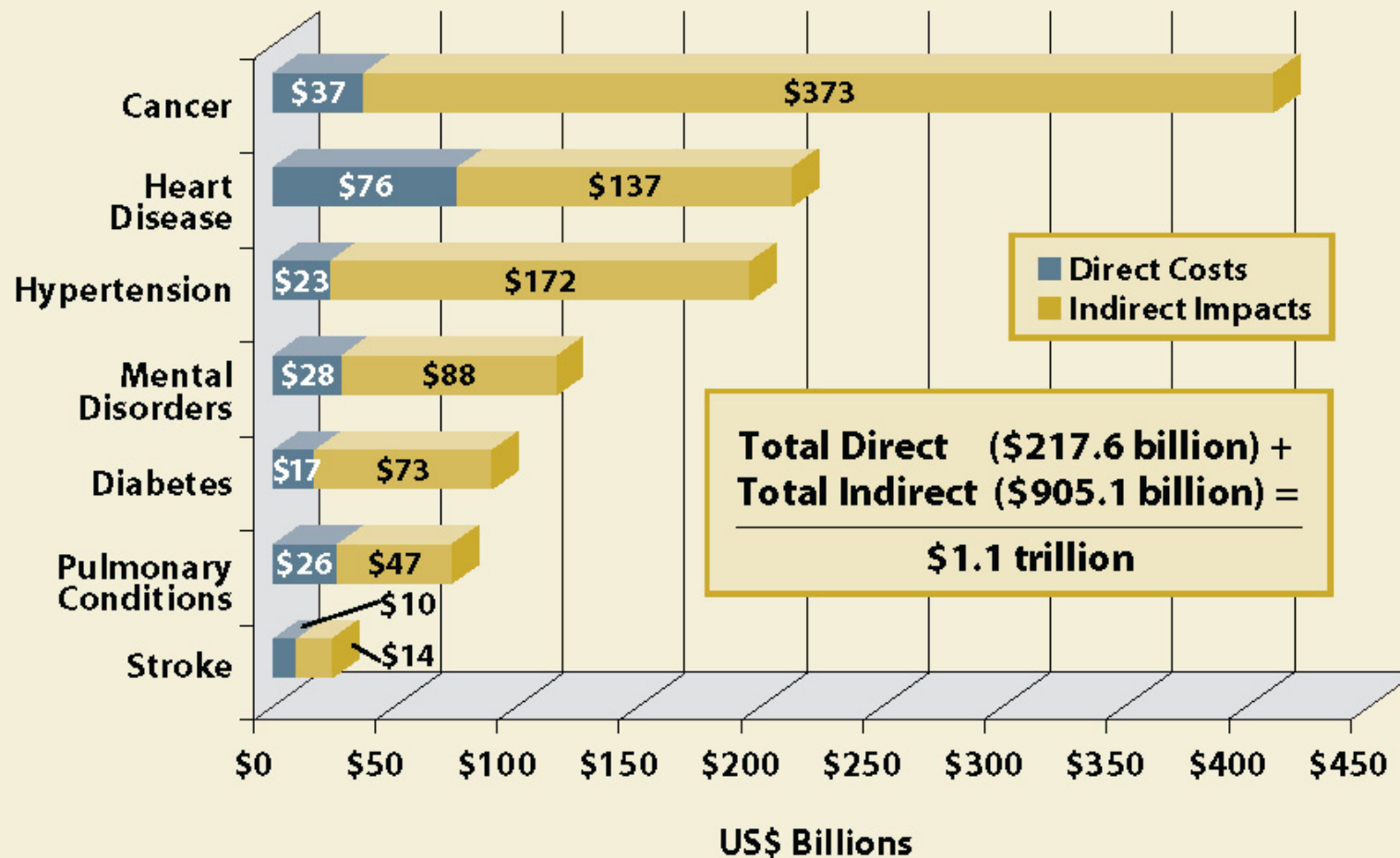


# Causes of death among women in 2010 in Western-Europe



# Chronic disease prevention is a good investment

(Cost Burden of Chronic Disease, USA, 2007)



Source: Milken Institute, 2007

# Overall Comments on OSH-Priorities Report

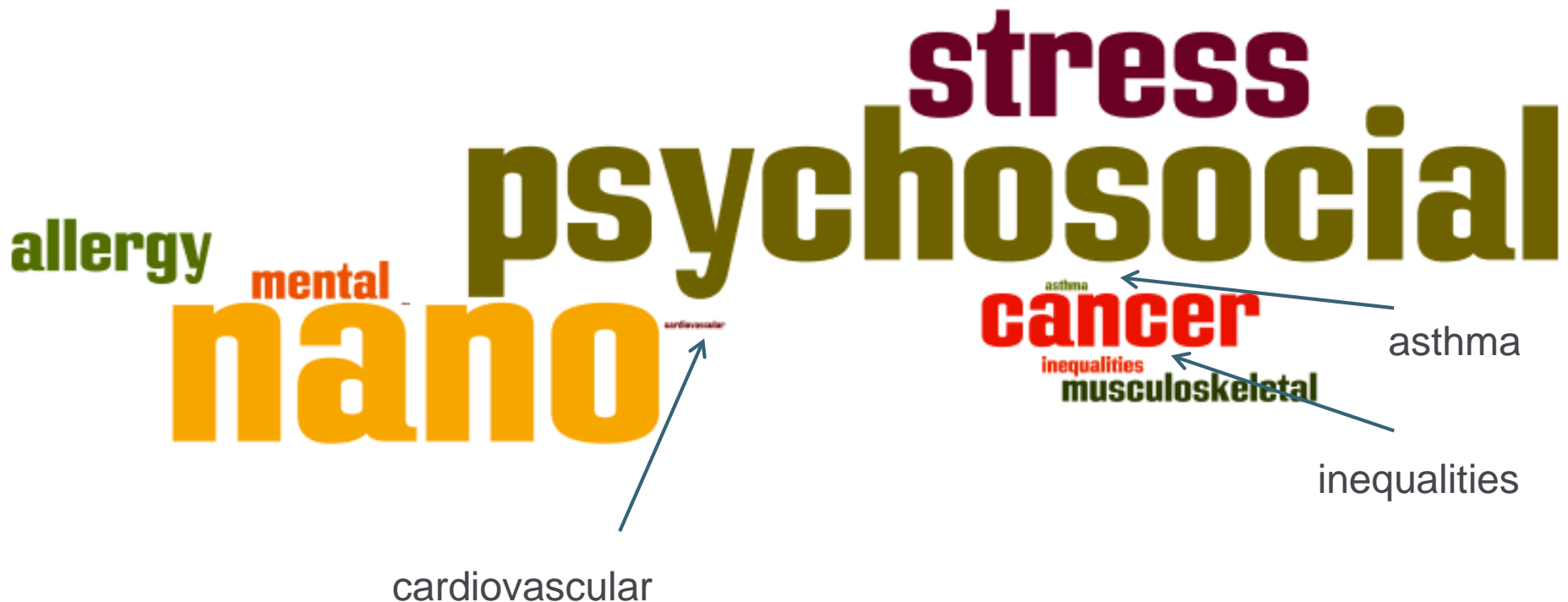
- A valuable document to conclude the recent trends in the field of OSH
- Has an ambitious aim: set priorities for OSH in Europe for the future years to come
- The document is in line with the priorities of the EUROPE 2020 strategy
- Research priorities cover wide range of issues – how to make practical conclusions based on the document?

# Wordle-cloud of the document: Is the content future-oriented?

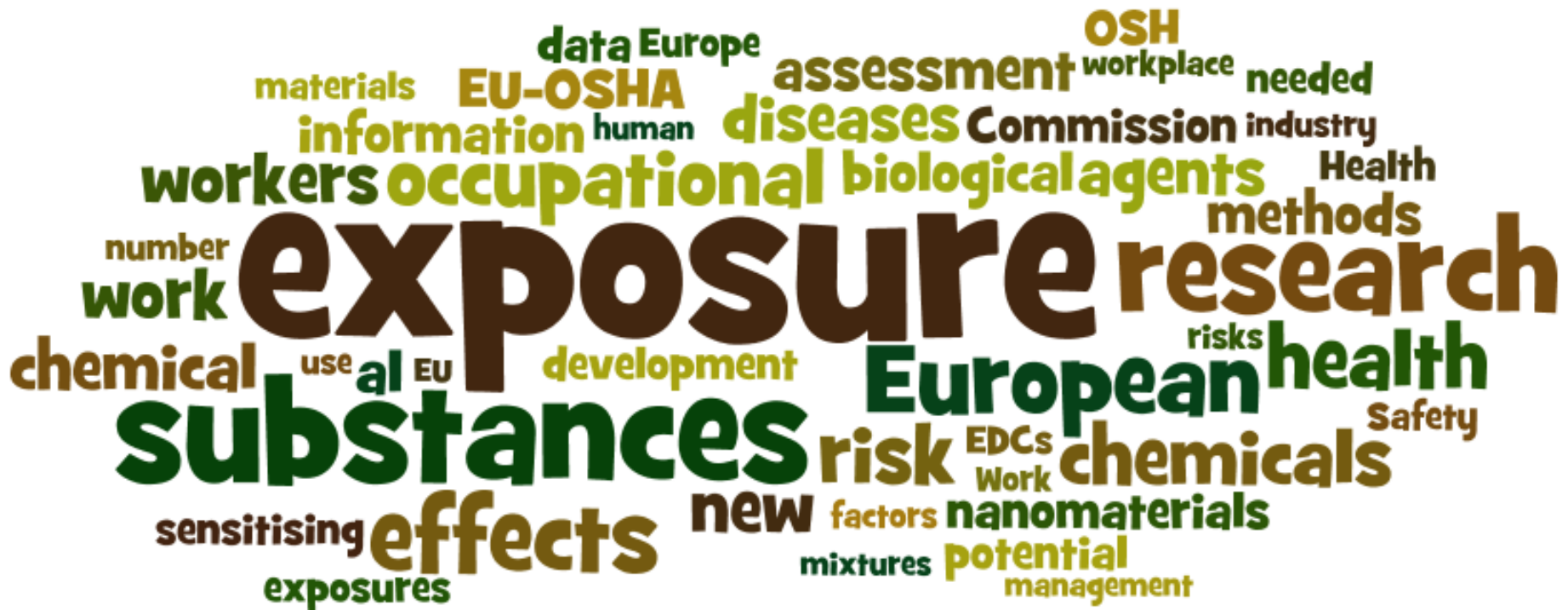




Concerns about psychosocial issues,  
nano and cancer – but  
not about asthma nor inequalities?



Wordle-cloud of the theme:  
New or increasing occupational  
exposures



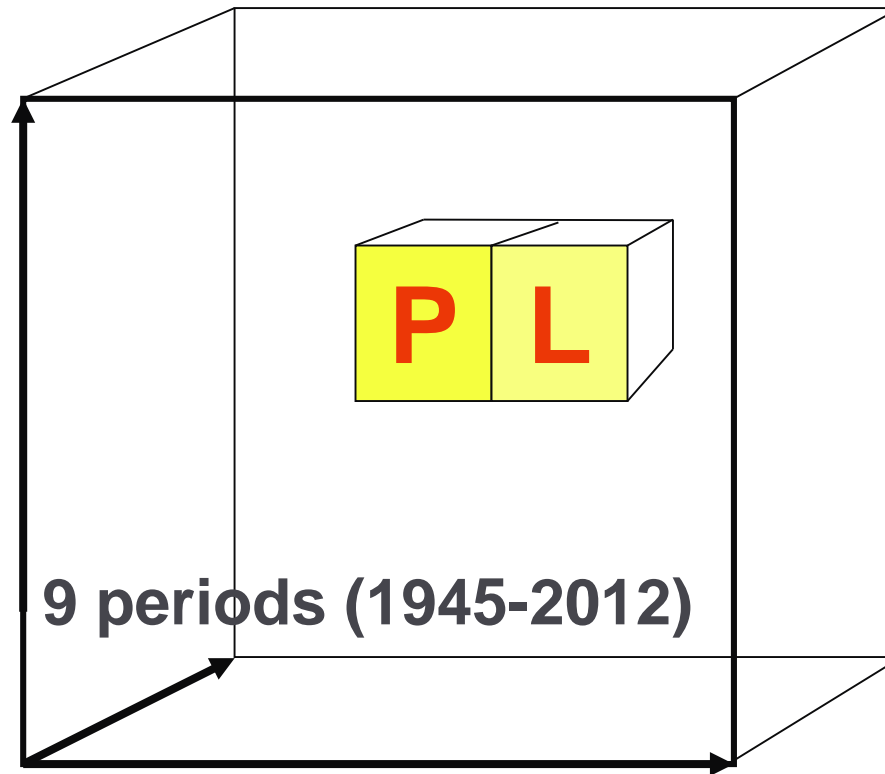
# Insufficient data on exposure is an "Achilles heel" in risk assessment / management



- Simple JEM: cross-tabulation of "jobs" and "exposure"
  - Advanced JEM: additional axes (calendar time, age, gender)
  - Includes exposure prevalence (P) and level (L)
- Specific JEMs: *e.g.*, CAREX, WoodEX
- Because cancer registers exist in most EU-countries, cancers can be identified.
- Registries for other disease outcomes; T2D, CVDs, etc., are less well organized
- A need for identifying exposed and non-exposed in order to analyze the occurrence and causation

# FINJEM

84 exposures:  
(chem, phys,  
ergo, psycho,  
lifestyle)



**P**, prevalence of  
exposure (%)

**L**, level of  
exposure (ppm,  
etc.)

311 occupations (Finnish classification)

# OSH-issues in sight (1/2)

- "Hypersensitivity syndromes": Multiple chemical sensitivity (MCS); Idiopathic environmental intolerance syndrome (IEI)
  - Causative factors behind these conditions, mechanisms and management??
  - Role of chemicals / biological toxins?
  - Management and rehabilitation?
- Risk communication and risk perception
  - Workplaces are different: some do not care about the risks of chemical exposures ->
  - Attitudes and management need to be analyzed and reoriented
  - OELs, tolerable and acceptable risks: harmonizing the setting of permissible levels



# OSH-issues in sight (2/2)

- The role of SME's in proper management of chemical risks:
  - Indicators and tools for the management of chemical risks (like REACH) especially for SME's
  - Application of assessment tools such as Control banding ( e.g., Stoffenmanager)
  - Research on the effect of REACH on chemical risk management at work
  - Development of analytical methods with low detection limits: assess and communicate the avoidable risks and health consequences
  - Gathering and use of exposure data in the development of exposure modelling techniques
  - Constructing an European job-exposure matrix (JEM)

# Current Challenges –new and old - in OSH-research in Finland



- **Ageing workforce** => need longer work careers
- **Economic recession** => unemployment, lay-offs  
>consequences to population health and well-being
- **"Absenteeism"**: Chronic work related-diseases;  
disabilities, return to work programs
- **"Presenteeism"**: Alcohol-related ill-health; work ability
- **Mental and behavioural disorders**, depression in  
particular, and the changing world of work
- Increasing information about **load and stress at work**,  
mental exhaustion and chronic diseases
- Diseases of the **musculoskeletal system** in ageing  
workforce

# Current OSH-issues in chemical/biological area in Finland



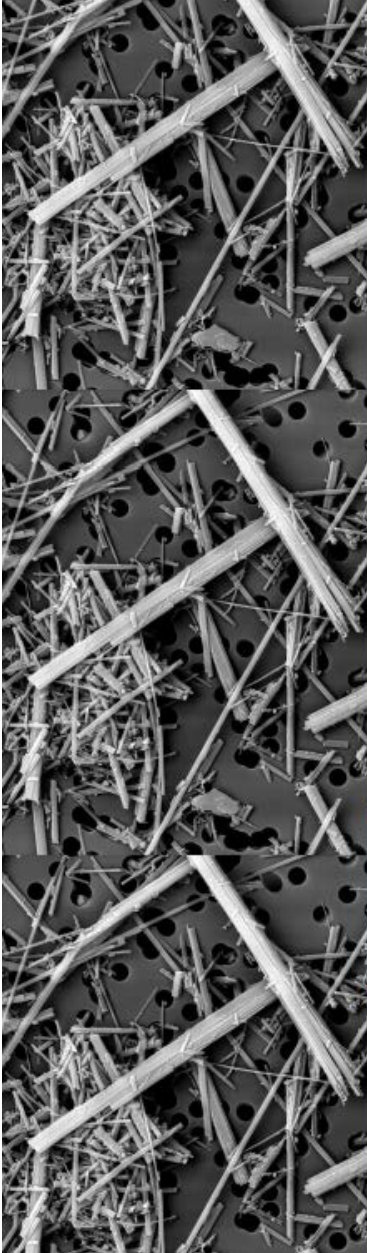
- Particular research issues; e.g., work and cognitive ability, OSH in moisture damaged buildings, exposure and risk in nanomaterial using industry
- Basic and applied toxicology on priority exposures, special interest on immunoeffects and early warning signs
- Management tools such as Stoffenmanager/Stoffenmanager nano
- Effects of REACH on chemical risk management at work : use of REACH data in MSDS
- Good practices for the management of OSH-risks
- Best practices for risk communication



# Summary: top 5 foci

- Methodology for exposure assessment on critical compounds (CMR, sensitizers, endotoxins, nano)
- More emphasis on exposure and hazard assessment of CMR, sensitizers & nanomaterials (-> JEM?)
- Development of risk assessment and management of engineered nanomaterials and other priority exposures to enable sustainable use of resources
- Understanding idiopathic environmental intolerance (IEI) and its manifestations
- Consider the issues of safety in LCA of the materials concerned

Dead-line for abstracts: Oct. 15, 2013



International  
Conference on  
Monitoring and  
Surveillance of  
**Asbestos-Related  
Diseases 2014**

*11–13 FEBRUARY 2014  
HANASAARI CULTURAL CENTER,  
ESPOO, FINLAND*



Finnish Institute of  
Occupational Health

The goal of this  
Conference is

- To highlight problem areas in the surveillance of asbestos-exposed individuals
- To agree on the criteria for assessing the work-relatedness of asbestos-induced diseases
- To discuss new sources of exposure to asbestos

[www.ttl.fi/helsinkiasbestos2014](http://www.ttl.fi/helsinkiasbestos2014)



**Thank you for your attention!**

Follow us on Twitter:



<http://twitter.com/fioh>