



# EU-OSHA activities on work-related diseases

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Safety and health at work is everyone's concern. It's good for you. It's good for business.

# European Agency for Safety and Health at Work (EU-OSHA)

- A body of the EU
- Established in 1996 in Bilbao, Spain
- To promote a culture of risk prevention to improve working conditions in Europe, by providing technical, scientific and economic information to serve the needs of those involved in safety and health at work.
- Tripartite Board bringing together:
  - governments, employers' and workers' organisations
  - the European Commission



# What we do

## ▪ Research

- We identify and assess new and emerging risks at work
  - e.g. foresight, ESENER (EU survey of enterprises on new and emerging risks)
- We mainstream OSH into other policy areas: public health, research, environmental protection, transport, education, ...

## ▪ Prevention

- We collect good practice examples
- We develop hands-on instruments for micro, small and medium-sized enterprises to help them assess their workplace risks, share knowledge and good practices on OSH
  - OiRA (Online interactive risk assessment)

## ▪ Partnership

- We work and network with governments, employers' and workers' organisations, EU bodies and private companies
  - e.g. our EU network of national Focal Points

## ▪ Campaigning

- We organise major bi-annual EU “Healthy Workplace Campaigns”:
  - 2012-2013: Working together for risk prevention
  - 2014-2015: Healthy workplaces manage stress

# A major challenge

## EU OSH Strategic Framework 2014-2020

- **The European Commission has adopted a new Strategic Framework on Health and Safety at Work 2014-2020:**
  - key challenges;
  - strategic objectives;
  - key actions and instruments.
- **Framework has been prepared on the basis of:**
  - the findings of the evaluation of the previous EU OSH Strategy;
  - the results of a public consultation;
  - the contributions of relevant stakeholders.
- **One of the major challenges: to improve the prevention of work-related diseases.**

# EU-OSHA strategic approach

## EU-Strategy

### Multi-annual strategic programme

Identified  
priorities

### Annual Management Plan

Specific projects

## Multi-annual strategic programme 2014 - 2020

- **Challenges: Economic and demographic change, OSH management, worker health, NER, the diverse workforce**
- **Priority areas under which work carried out**
  - Anticipating change
  - Facts and figures
  - Tools for OSH management
  - Raising awareness
  - Networking knowledge
  - Network building

# EU-OSHA Strategic objectives 2014-2020

- **Providing credible, good quality data on new and emerging risks**
- **Providing an accurate and comprehensive current picture of the “state of OSH”**
- **Making accessible tools for micro and small enterprises**
- **Raising awareness about hazards, risks, and solutions**
- **Mobilising the OSH community to develop and disseminate knowledge**
- **Networking to engage with partners and support information dissemination**



# Member states' policies on work-related diseases

- **2013 European Commission report on occupational diseases' systems**
  - 26 countries have a national list of occupational diseases (out of 29);
  - 13 countries have “complementary clause” (or “open clause”) that is a legal regulation allowing recognition;
  - occupational disease lists mainly aid recognition and compensation;
  - difficulty in fitting multi-cause illnesses into their existing concept of compensation;
  - overlap between occupational accidents and diseases (e.g. MSDs, suicide).
- **2009 Advisory Committee on OSH scoreboard structured around six topics, one of them is “work-related health problems and illnesses”.**
  - Only 15 of 27 countries used research results on emerging risks for labour inspection priorities.



# A new look at old diseases

## EU-OSHA work

- As early as 2002 (OSH monitoring Workshop 2002 – Forum 11), EU-OSHA was asked to contribute to the policy discussion on work-related diseases
- EU-OSHA set up a web feature on monitoring systems in the Member states
- **Published reports:**
  - Policy and practice - skin diseases
  - Chapters in “emerging chemical risk” and “emerging biological risks” reports
  - OSH in figures MSDs
  - OSH in figures Noise and hearing loss
- **Integration into work on groups, sectors, risk factors**
- **2002-2014 Participation in Eurostat working groups**
- **2011 Participation in workshop on occupational diseases (EC report) and 2013 conference on occupational diseases**

# A new look at old diseases

## Contributing to evidence base for action (1/2)

- **Cover vulnerable workers, groups/occupations particularly at risk, and/or with little support/protection/awareness**
- **Cover service sectors**
- **Raise awareness of emerging issues**, e.g. increasingly static work may lead to digestive cancers, MSDs, reproductive disorders, etc
- **Consider combined exposures/wider context of work:**
  - work organisational factors, e.g. static work and cancer / CVD, shift work and cancer;
  - life-style factors linked to how work is organised (non-standard working times, static work, lack of access to healthy food, norms/culture of the sector, etc. )

# A new look at old diseases

## Contributing to evidence base for action

- **Cover diseases/health problems that are not so well covered**
  - Areas where back-to-work strategies are needed (e.g. cancer, lower limb disorders)
- **Input into:**
  - work on instruments and tools;
  - discussions on monitoring;
  - link to health promotion;
  - work on sectors, groups, research priorities, foresight;
  - our campaigns.
- **Refocusing perspective to cover service sectors, women, young people, different age groups, diversity issues, workers on temporary jobs, outsourced work, multiple jobs/workplaces, working at clients' premises and at mobile sites**

# Facts and figures – EU-OSHA risk observatory studies addressing the main diseases and health problems

European Agency for Safety and Health at Work  
EUROPEAN RISK OBSERVATORY REPORT  
EN 6

**Skin diseases**

Occupational skin diseases and dermal exposure in the European Union (EU-25): policy and practice overview

European Agency for Safety and Health at Work

**Stress**

OSH in figures: stress at work — facts and figures

European Agency for Safety and Health at Work

**MSDs**

OSH in figures: work-related musculoskeletal disorders in the EU — Facts and figures

European Agency for Safety and Health at Work

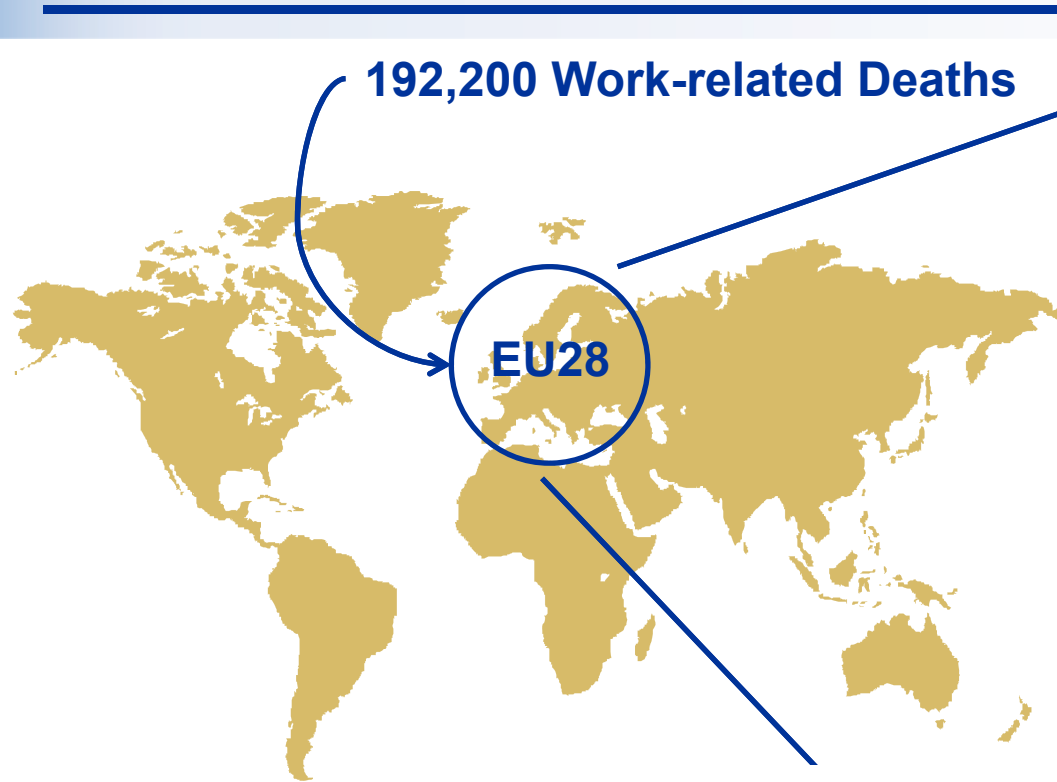
**Hearing loss and other noise related health effects**

Noise in figures

European Agency for Safety and Health at Work

<http://osha.europa.eu>

# Globally, 2.3 Million Deaths caused by Work



192,200 Work-related Deaths

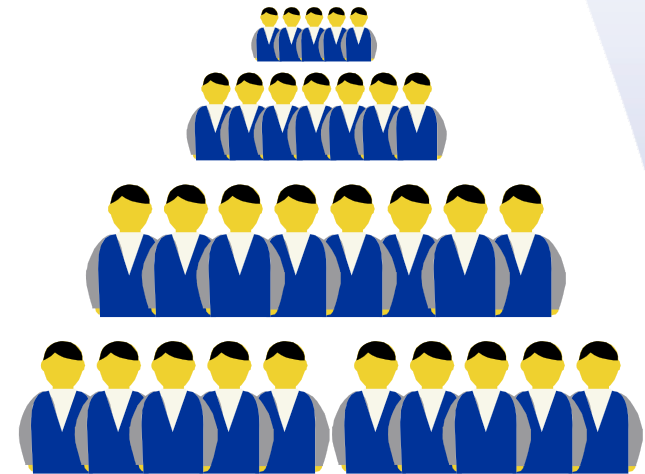
EU28

There were 192,200 work-related deaths in the EU28, from years 2010 and 2011.




2.4% (or 4,692 deaths) were caused by workplace accidents. The remaining 97.6% were due to illnesses that were work-related.



4,700 Fatal Accidents



187,500 Fatal Work-related Illnesses

-  = 100 workers
-  = 1,000 workers
-  = 10,000 workers

Source: Takala et al, at EU-OSHA WS on costs

<http://osha.europa.eu>

# Costs of accidents and work-related diseases

Cost type	Productivity costs	Healthcare costs	Quality of life losses	Administration costs	Insurance costs
Stakeholder					
<b>Workers and families</b>	Loss of present and future income (net of taxes)	Direct and indirect medical costs Rehabilitation costs	Physical pain and suffering Moral pain and suffering	Cost of time claiming benefits, waiting for treatment, etc.	Compensation payments
<b>Employers</b>	Sick payments Production losses Production disturbances Damaged equipment Damaged company image			Administrative and legal costs Cost for reintegration and re-schooling of (disabled) workers	Impact on insurance premiums
<b>Government</b>	Sick payments State benefits (disability, early retirement) Tax revenue losses	Direct and indirect medical costs Rehabilitation costs		Administrative and legal costs	
<b>Society (over and above all the previous)</b>	Loss of output (due to fatality or disability/ early retirement)				

## Costs - diversity of estimates

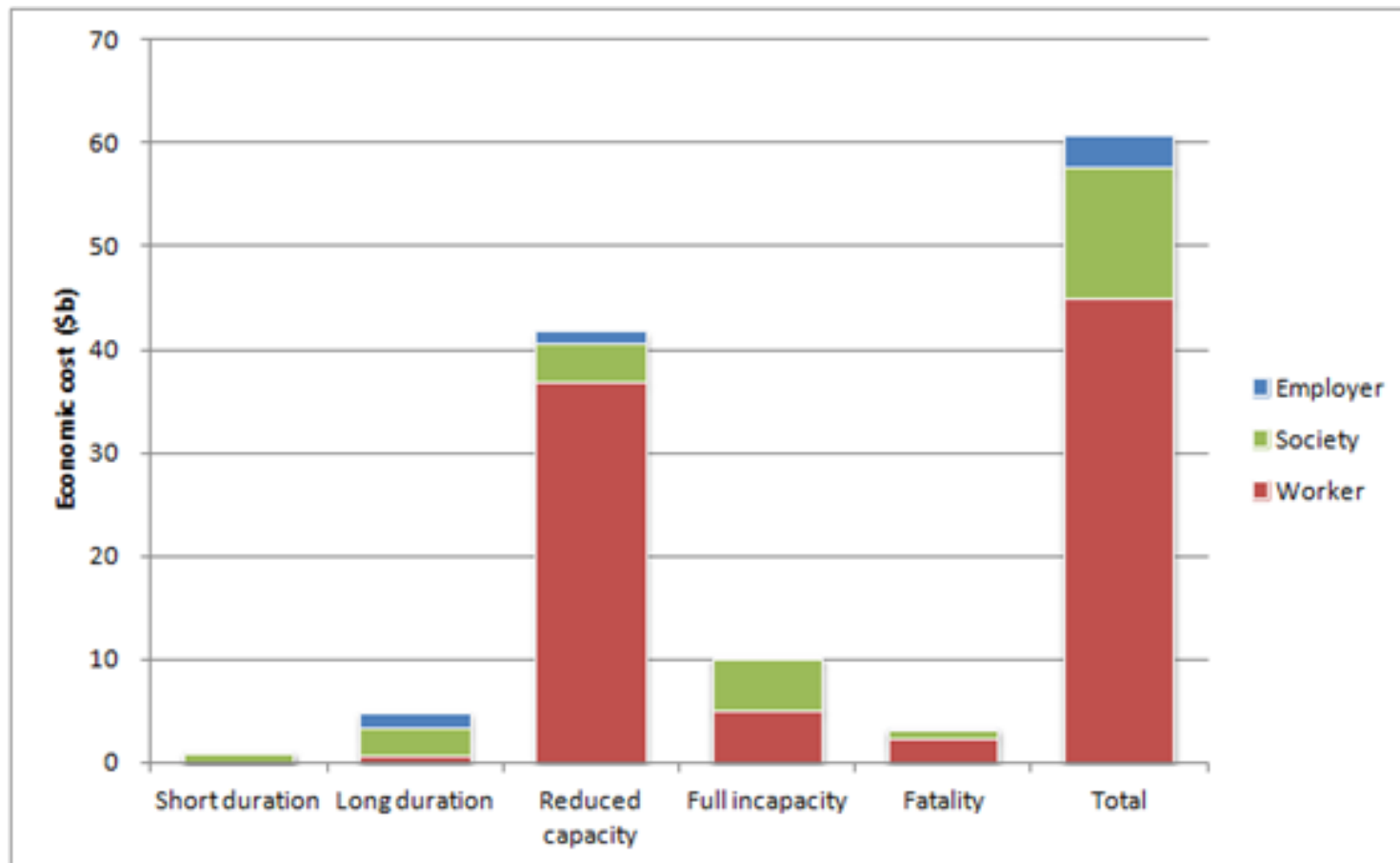
- **ILO: 4% of the world's annual GDP is lost as a consequence of occupational diseases and accidents = € 490 billion for EU27**
- **EU-OSHA (1997): range from 2.6% to 3.8% of GDP –variety of cost factors included.**

Country	Estimate % share GDP	Year
Netherlands	3.0	2004
Finland	2.0	2000
Spain	1.7	2004
United Kingdom	1.0	2010
Slovenia	3.5	2000
Australia	4.8	2009
New Zealand	3.4	2006
Germany	3.1	2011
Austria	2.7	2008



# The major part of the cost is borne by the workers

## Australia, Estimating the cost of work-related injury and illness to the Australian economy Distribution of total costs (\$b)



# Work-related diseases – Agency work

## A multi-annual global approach

The aim is to:

- **continue activities on work-related diseases** and address those currently not or insufficiently covered by the recognition / compensation / prevention systems
- provide policy makers, actors in work-related diseases recognition / compensation / prevention and the workplace level with **a better picture of work-related ill-health and the burden of work-related diseases**
- support better tailoring of prevention, setting of research priorities, development of monitoring methods and awareness-raising

# Expert forecast

## Main emerging chemical risks

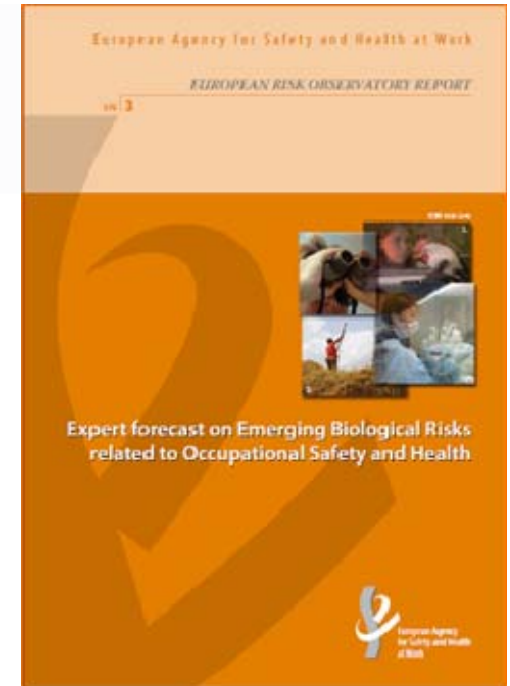
- **Nanomaterials & ultrafine particles**
- **Man-made Mineral Fibres**
- **Carcinogens, mutagens and reprotoxic substances**
- **Dermal exposures**
- **Exposures in waste management**
- **Combined exposures**
- **Poor risk management in micro- & SMEs, and sub-contracted work** (maintenance, cleaning, etc.)



# Expert forecast

## Main emerging biological risks

- **Global epidemics** (avian flu, HIV, etc.)
- **Drug-resistant microorganisms** (MRSA, tuberculosis, etc.)
- **Indoor moulds**
- **Poor maintenance of HVAC systems** (Legionella, Aspergillosis, etc.)
- **Waste management**
- **Endotoxins**
- **Poor risk assessment**
- **Combined exposure to biological agents and chemicals**



# EU-OSHA occupational burden of disease review- 2010

- **Aim**
  - **overview of the main approaches**
  - **Increase awareness** of the magnitude of work-related health problems and occupational diseases
- **Provide an overview:**
  - **Countries**/Member States where methodologies have been used?
  - **Which diseases**/injuries covered? Which groups/sectors covered?
  - **Any use in policy** (for example to highlight a specific issue (e.g. national plan on cancer, France))?
  - Overview table of studies (by country, disease, gender, age)
- **Broader issues:**
  - **Link to prevention** – (how) can the methodology be useful for setting priorities for prevention
  - **Under-/non-reporting** – are there issues/diseases missed out in the estimations (for example MSDs or psychosocial)
  - **Gender issues – differences, how to interpret them**

# How to measure occupational burden

- **The following metrics of risk or burden have been used in these studies:**
  - relative risk (RR), attributable fraction (AF) of disease due to specific exposure,
  - incidence of disease due to occupational exposures,
  - life years lost due to occupational factors,
  - disability-adjusted life years (DALY) and
  - costs of occupational diseases and accidents.
- **The DALY concept has been favoured in recent years, because it takes into account not only the lost life years but also life with disability/disease.**
- **However, the use of DALY has also been criticised. DALYs are poor indicators of effectiveness of public health interventions. DALYs have also been claimed to regard life of disabled people as less valuable.**

# Results of the OBD study

## Coverage of work-related diseases

- Mostly **dealing with high prevalence diseases**, such as cancers and pulmonary diseases (asthma and COPD).
- Other diseases like **cardiovascular diseases and MSDs not adequately estimated**.
- **Noise-induced hearing loss**, although the fourth most common occupational disease (Eurostat, 2004) and **skin diseases only estimated in a small number of studies**.
- **Disorders involving the immune mechanism**, attributable to occupation should be seen as challenges for future research (Tuchsen et al., 2004).
- Concern should be given to the burden of **reproductive disorders**
- **Mental health** an issue: suicide and stroke recognised as occ. accidents in some MS
- **Hardly any data by gender and age**



# Mental health an issue

- **Estimations of mental and neurological diseases' burden are scarce in global and national studies**
- **Mental disorders accounted for 4% of the work-related mortality in a Finnish study (Nurminen & Karjalainen, 2001).**
- **An increasing problem in industrial countries with strain and shift work as reported reasons (Hämäläinen et al., 2011).**
- **Mental disorders require more research attention in the future**
- **Suicide recognised as an occupational accident in some MS**
- **Sudden cardiovascular events (stroke) recognised as occupational accident in some MS**
- **Post-traumatic disorders a factor in some professions**

## Burden of selected mental and neurological diseases

<b><i>Disease</i></b>	<b><i>Burden</i></b>	<b><i>Reference</i></b>
<b>Mental disorders</b>	Represent 4% of occupational mortality (Finland).	Nurminen & Karjalainen, 2001
	11.3% of depressive episodes is related to job strain (Finland).	Nurminen & Karjalainen, 2001
<b>Neurological diseases</b>	9.2 % of Parkinson's disease is attributed to occupation and in particular exposure to pesticides.	Nurminen & Karjalainen, 2001

# Results of the OBD study

## What is not considered

- **Mostly studied: cancer and accidental injuries, caused mainly by mechanical factors and chemical exposures**
- **Factors under assessed:**
  - Work organisation: Repetitive work, lack of control, disruption, shift work, night work
  - Emerging ergonomic risk factors: Prolonged sitting and standing, static postures
  - Multiple exposures
- **Health problems:**
  - Lower-limb disorders
  - Neurologic disorders linked to chemicals exposure
  - Tinnitus, voice disorders
  - Reproductive disorders linked to work organisation or chemical exposures
  - Cardiotoxicity
  - Health problems linked to combined exposure

# Results of the OBD study

## Link to prevention and policy?

Awareness raising among decision makers is needed, BUT:

- **Recommendations rather general** and do not directly guide practical action.
- They provide **information at the national level**.
- Difficult to find examples where the results would have been used for a situational description, strategic planning, work programmes, campaigning, focusing of inspections.
- **Many studies report only total numbers**. From the point of view of prevention, this is not useful enough.
- **Exposure levels and related risks** in occupational field **vary very widely**.
- **Other tools** such as job-exposure matrices including estimates of the prevalence and level of exposure by detailed occupation **can also be helpful for directing and prioritising of preventive activities**

# Results of the OBD study

## Purpose of the studies and exposure data important

- **Reflect present disease caused by past exposure**
- Good for costs estimation but for prevention **more useful to study future burden**
- Half of the studies focused on mesothelioma, due to the well-established and direct relation to exposure to asbestos, the main cause of the disease.
- Dose-response or concentration response data is seldom available from epidemiologic studies.
- Different exposure levels of the exposed groups are problematic.
- **Relative risks of highly exposed groups are not directly transferrable** to other larger, obviously less exposed groups.
- Even though the average risk in the population or exposed population would be small, there may be specific worker groups whose risk is 10-1000-fold higher than the average.
- For the preventive measures and interventions, it could be useful to **carry out the burden assessment for specified worker groups.**

# How to measure exposure

- Different exposure levels of the exposed groups are problematic. Information other than exposed/ unexposed would improve the accuracy of the results. Unfortunately, dose-response or concentration response data is seldom available from epidemiologic studies. It has, however, been possible to establish epidemiology-based concentration - response relationships for some environmental factors such as radon radiation and lung cancer mortality
- Relative risks of highly exposed groups are not directly transferrable to other larger, obviously less exposed groups. Risk rates are then not transferrable between source and target population of the study
- Even though the average risk in the population or exposed population would be small, there may be specific worker groups whose risk is 10-1000-fold higher than the average. For the preventive measures and interventions, it could be useful to carry out the burden assessment for specified worker groups.
- The identification of worker groups at high risk can also be done irrespective of burden assessment, on the basis of exposure data which may exist as classified by industry, occupation or work task. In this situation toxicological data and occupational exposure limits can be used.

## Newer approaches:

estimation of future burden and forecasting scenarios linked to preventive action

- **Example: Shift Work (Night work)**
- **Occupational Circumstances no 'exposure data'**
- **Breast cancer: important contribution to the total current occupational cancer burden**
- **Exposure defined by nature of occupation – unknown agent, no exposure data**
- **Evidence of dose response with duration of night work**

Duration	Relative Risk	Proportion 'exposed'
<5 years:	0.95	30%
5-14 years:	1.29	40%
15+ years:	2.21	30%

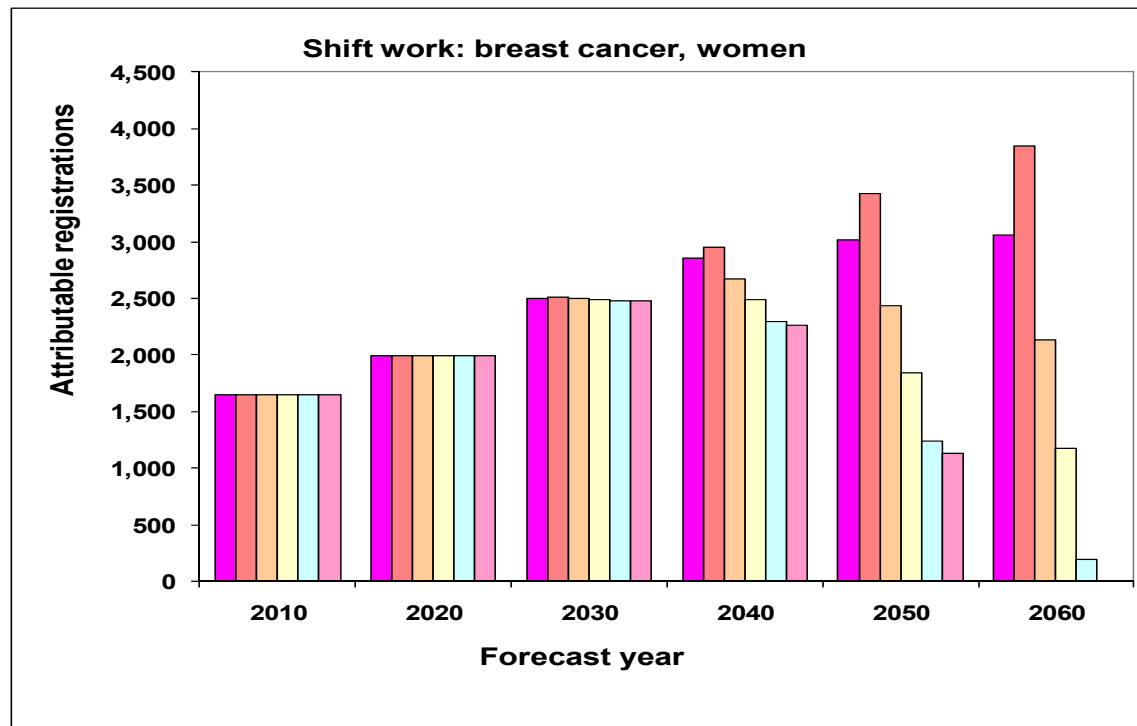
- **Intervention scenarios expressed as limiting proportions in night work for durations of 15+ and 5+ years**

*Source: EU-OSHA Cancer seminar Sep. 2012 UK burden of disease data (Rushton, L.)*



## Newer approaches: estimation of future burden and forecasting scenarios linked to preventive action

### Shift (Night) Work: Forecasted Attributable Cancers



Source: EU-OSHA Cancer seminar Sep. 2012 UK burden of disease data (Rushton, L.)

- (1) Current employment levels maintained, 30% <5, 40% 5-14, 30% 15+ years night shift work
- (2) Linear employment trends to 2021-30
- (3) 50%<5, 30% 5-14, 20% 15+ years night shift work
- (4) 70%<5, 20% 5-14, 10% 15+
- (5) 90%<5, 10% 5-14, 0% 15+
- (6) 100% <5 years

# Work-related diseases

## A multi-annual global approach

For researchers, policy makers and workplace intermediaries:

- state of the art reviews to share/advance research/knowledge
- review strategies, policies and programmes, including campaigns
- support discussions on monitoring, recognition, methodologies to better assess the burden of work-related diseases, and rehabilitation strategies
- link with other policy areas, e.g. chemicals policy, public health
- work on instruments and tools for workplace management

### Outputs

- **Reports**
- **Short summaries**
- **Articles on specific issues – OSH wiki?**
- **National workshops through portfolio approach**
- **EU seminars**
- **Good practice articles - efacts**

# A new look at old diseases

## Ongoing work

- **Building on Agency's work**
  - MSDs, skin diseases, stress-related disorders
- **Risks to reproductive health**
  - workshop and publication of a report
  - publication of workshop summary  
<https://osha.europa.eu/en/seminars/workplace-risks-affecting-reproduction-from-knowledge-to-action>
  - Workshop to scope future work on burden of work-related diseases: October 10th 2014
  - with experts, European Commission, WHO, ILO, SCOEL, employers' and workers' representatives
- **Carcinogens and work-related cancer**
  - report + summary to follow-up on 2012 seminar and address gaps identified
  - <https://osha.europa.eu/en/seminars/workshop-on-carcinogens-and-work-related-cancer>

# Work-related cancer

## Agency's work

- **Member States survey and report on occupational exposure limits for CMRs** (published in 2009)
- **Seminar with European Commission, ECHA, Member State reps, advisory committee working party “Chemicals”, SLIC Chemex, SCOEL** (summary published in 2012)
- **Gaps identified in:**
  - research
  - monitoring
  - workplace solutions
  - policy level
- **2013-2014: report on exposures assessment methods**
- **2015: report on rehabilitation related to cancer**

Workshop to scope future work on burden of work-related diseases:  
October 10th 2014

- **with experts, European Commission, WHO, ILO, SCOEL**
- **Discussion on future focus**
- **Presentation of EU-OSHA research and future plans**
- **Presentation by DG EMPL B3?**
- **Presentations by WHO, ILO, national examples**
- **Presentations by social partners**
- **Presentation of national and EU examples of alert systems**
- **Presentation of research planning in Canada**
  
- **We hope to have a better idea of what the other organisations are planning to avoid overlap and work in a complementary way**

# Work-related cancer

## 2012 seminar

<https://osha.europa.eu/en/seminars/workshop-on-carcinogens-and-work-related-cancer>

- **Monitoring:**
  - Take different approach (*occupation* → *disease* rather than *agent* → *disease*)
  - Use job-exposure matrices
  - Use cancer registers and other sources of data
- **Rethink concept of vulnerable workers:**
  - Young workers (e.g. in maintenance)
  - Migrant workers in low-skilled manual jobs – lack of training and access to preventive services
  - Women in service professions
  - Older workers
- **Rethink major causes and how to assess the burden of disease:**
  - Nordic Occupational Cancer study (NOCCA) looked at socio-economic determinants and occupations via cancer incidence
  - Examples: cancer of the digestive system linked to static work, “cultural norms of the occupation” and access to healthy food
  - Combined exposures to several factors
  - Shift work and cancer

# Work-related cancer and return to work

## RETURN TO WORK important

- hardly any reintegration measures and back-to-work measures for workers affected by cancer incl. work-related cancer (EU-OSHA, workshop on work-related cancer, 2012).
- Employment rate of cancer cases goes from 78% to 64% 2-3 years after cancer (controls 73%)
- People with cancer are at higher risk of early departure from work life:
  - Higher risk of retirement due to cancer compared to average
  - Higher risk for unemployment due to disability for cancer patients

## Return to work after a work-related cancer raises specific issues

- Is the workplace safe
- How do we deal with colleagues in case of a work-related disease ?



# DG EMPL B3

1. Update of the schedule of occupational diseases
2. Update of the related information notices (diagnostic criteria)
3. European occupational diseases statistics EODS:  
ESTAT proposed next steps :
  - **2014 – 16: DG EMPL Diagnostic Criteria Expert Group (DCEG) and EODS Working Group:**
    - to work on and propose a list of diseases recognised in all MS under similar conditions and according to ICD-10 classification (starting from the short list of in annex I of the ESOD Recommendation 2003/670 EC)
    - to work on and propose a short list of causal agents
  - **2016: Agreement on the final lists by DCEG and EODS (including its feasibility)**
  - **2016: Agreement on the modalities of the simplified data collection by EODS**
  - **2017 – 18: Pilot data collection (microdata or tabular data to be decided later) to test the feasibility and quality of the new data collection**
  - **2019: Evaluation of the pilot data collection**
  - **2019: On the basis of the evaluation report, the Commission will make a proposal about the future of EODS**

# Current discussion

## 2015 outlook

### ■ **Methodologies:**

- Burden of disease assessment - estimates
- Work-related cancer and carcinogens - exposure assessment and identification of groups at risk
- Review on alert and sentinel systems to identify emerging work-related diseases

### ■ **Overview reports - facts and figures**

Review on group of work-related diseases

### ■ **Good practice & guidance**

- Back to work: Review on rehabilitation and back-to-work measures for workers affected by cancer

### ■ **Awareness-raising & dissemination**

- Reports on reproductive risks & cancer

Short translated summaries of the reports – portfolio approach

Focus groups, workshops, seminars in the Member states

## The following disease groups could be targeted for the multiannual project (over 3-4 years).

- Work-related cancers, reproductive disorders (covered 2012-14)
- Neurological diseases, incl. chemicals-related (memory loss, depression, neuropathies, cognitive loss, affectation of the balance, etc...), Parkinson (link to pesticides and other) and other (physical risks such as vibration)
- Diseases caused by biological agents, incl. allergic reactions and infectious diseases
- Lower limb disorders
- Cardiovascular diseases (incl. static work, noise, incl. low-level, stress, etc.)
- Immunological diseases
- Sensory disorders, such as sight problems, tinnitus, etc.
- Voice disorders, as identified in the “Noise in figures” report.
- Mental health disorders
- Respiratory diseases

# What is needed

- **Improving statistical data collection to have better evidence and developing monitoring tools – data on recognised diseases also needed**
- **Information on the benefits of OSH action – long-term evaluation of actions**
- **Targeted prevention supported by:**
  - Systems to identify case studies of health problems and target prevention
  - Evaluation of prevention schemes and campaigns
  - Long-term evaluation of policies, e.g. noise reduction
  - Specific actions for the reduction of health problems, e.g. voice disorders
  - Early assessment of health problems linked to new types of jobs (e.g. green jobs, call centres, home care, etc.)
  - Better use of existing tools: Job-exposure matrices and analysis of disease /death registers
  - Linking occupations to specific health problems and identify causes
- **Better awareness**
- **Empowerment of workers**
- **Coverage by preventive services**

# Changes in the world of work

## Issues to be addressed

- **Part-time work and temporary work**
- **Trend to multiple jobs, how to assess exposures and protect workers**
- **Move from industry to services**
  - Statistics insufficient (e.g. restricted coverage of sectors and diseases)
- **Increasing number of female workers & insufficient knowledge**
- **Increasing number of migrant workers & insufficient knowledge**
- **Subcontracting**
- **Informal work. e.g. in home care, cleaning, agriculture**
- **Move away from the one worker/one workplace concept, how to work at client's premises**
- **Unsolved problems regarding combined exposures, including with physical risks, and dermal exposure**
- **Impact of new technologies – nano, green jobs, etc...**

# Thank you for your attention

<http://osha.europa.eu/>

