

Workshop on carcinogens and work-related cancer

Berlin, 3 and 4 September 2012

Introduction

The workshop 'Carcinogens and Work-Related Cancer' was organised by the European Agency for Safety and Health at Work (EU-OSHA) and held on the afternoon of 3 September and the morning of 4 September 2012. The meeting was hosted by the German Ministry of Labour and Social Affairs at their offices in Berlin. About 60 people from various European countries participated. Participants included experts nominated by the Agency's network, and representatives of the European Commission, the Advisory Committee on Safety and Health's Working Party on Chemicals (WPC), the Chemex group of the Senior Labour Inspectors Committee (SLIC), the Scientific Committee on Occupational Exposure Limits (SCOEL), the European Chemicals Agency (ECHA) and the International Agency for Research on Cancer (IARC) of the World Health Organisation (WHO). The speakers at the workshop were from research organisations, trade unions and employers' organisations, as well as national authorities. The aim of the workshop was to summarise the current understanding regarding exposures to carcinogens and the causes and circumstances of work-related cancer, and to discuss how this knowledge can be used across the European Union (EU) to reduce the future burden of these cancers.

In the first part of the meeting, three 'breakout' sessions were organised, which considered:

1. methods to assess exposure to carcinogens and the work-related cancer burden;
2. vulnerable groups of workers exposed to carcinogens and workers suffering from (work-related) cancer; and
3. cancer prevention: action plans and campaigns to prevent work-related cancer.

The breakout groups discussed the presentations and the main conclusions from these discussions were summarised and presented at the plenary session on the morning of the second day. A plenary discussion on the three topics followed. Actions for further work were identified as a result of the discussions on both days.

During the final plenary session, a panel discussion was held between representatives of the European Commission's Directorate General for Employment and Social Affairs (DG Employment), ECHA, SCOEL and SLIC and members of the WPC of the Advisory Committee on Safety and Health at Work. This discussion included comments from the attendees. The workshop was closed by Elke Schneider from EU-OSHA, who summarised the main conclusions and anticipated outcomes.

Main conclusions

The main conclusions from the workshop are as follows:

- Research efforts estimating the burden of occupational disease and building on the links between occupations and exposures are very helpful for setting priorities for prevention and disease recognition and compensation. Efforts to update exposure data for such studies, for example CAREX (International Information System on Occupational Exposure to Carcinogens), NOCCA (Nordic Occupational Cancer Study) and the various job-exposure matrices, need broad support, including from European institutions.
- Research into, interventions relating to and recognition of work-related cancers need to consider changes in the world of work (e.g. increases in subcontracting, temporary work, multiple jobs, working at clients' premises with limited possibilities for adaptation, static work, female employment in exposed occupations, atypical working times and multiple exposures; the move from industry to service sectors; etc.). All these challenges need to be addressed. EU-OSHA could help in raising awareness and providing data and evidence on emerging risks such as exposure to complex mixtures (for example in painting as an occupation) and work organisational factors (such as shift work), as well as in sharing experiences of good-practice solutions and policies.

- There is an increasing need to identify vulnerable and hidden groups, whose occupational exposure to cancer risks and carcinogenic processes is underrepresented in exposure data and intervention strategies. Studies have provided evidence of an unrecognised work-related cancer burden among lower socioeconomic classes, which may be linked to their typical occupations and limited scope for adaptation. The concept of 'socially discriminating cancers' was introduced. Vulnerable and hidden groups are typically found amongst migrants, part-time workers and those employed as subcontracted staff. Women and young workers, typically in service occupations where awareness of chemical risks is low, may also be at risk. These hidden groups are typically exposed to multiple carcinogens and, because of the socioeconomic context, are at greater risk of developing cancer.
- A broader view on the causes of work-related cancer is needed. Lifestyle factors such as obesity, tobacco smoking, alcohol use, etc., are not solely personal, but can also be determined by the living and working environment (e.g. economic insecurity, access to healthy food and facilities, easy access to alcoholic beverages at work, the way work is organised). The common practices in relation to and attitudes towards safety in an enterprise or industrial sector may also have an influence.
- It is expected that as hazardous chemicals are registered under REACH (the EU regulation on Registration, Evaluation, Authorisation and Restriction of Chemicals) more information on carcinogens and occupational exposures will be provided. Open access to data on substances and their exposure is crucial, for all the actors, whether in policy, research, labour inspections or at workplace level. Wider access to exposure and substances databases, and data generated under REACH, as well as data on health problems, is needed. Cooperation between the various relevant bodies and up and down the supply chain should be promoted at EU and national levels, and across industrial sectors.
- However, a number of chemical and non-chemical carcinogens do not fall under REACH. These are, in particular, substances not manufactured on purpose but unintentionally formed during the working process, such as diesel motor emissions, wood dust and welding fumes. These risks need to be addressed by research, monitoring and prevention. The same level of protection needs to be provided to all workers.
- Traditional occupational cancers have often been fatal and diagnosed in older workers. Because new causes have been identified and treatment is better, there are more workers now for whom a return to work is a realistic option (e.g. women with breast cancer employed in shift work). Therefore, we should find ways to support these workers.
- With better medical treatments, cancer has increasingly become a chronic condition. However, few targeted rehabilitation and return-to-work strategies currently exist, and these were originally developed for a number of other work-related health conditions (e.g. musculoskeletal disorders).
- Interventions to address return-to-work problems could benefit from experiences of interventions that have been shown to work effectively. The first days after the return to work are crucial, so enterprises should be prepared to adapt working conditions to specific circumstances of the returning employee from an early stage.
- Cancer survivors were shown to be significantly more likely to be unemployed. In the future, more emphasis should be put on identifying factors that cause recurrent sick leave and early departure from working life.
- Workers who have suffered work-related cancer may need specific measures to protect them from being exposed again to the same risks as before, or to adapt the conditions to their physical abilities. A thorough assessment is needed. The enterprise should also be prepared to deal with the concerns of co-workers. Recently recognised cancer risk factors, such as shift work, are a particular challenge for such workplace adaptation.
- There is a strong legislative framework in Europe, and its implementation and enforcement is essential for the effective prevention of cancer in the workplace. To this end, improved access to information and specific training and guidance for enforcement authorities and labour inspectorates are needed, as are sufficient resources. The exchange of experiences and strategies of national enforcement authorities, involving SLIC and the ECHA Forum, will be useful.

- A recent campaign on CMR (carcinogenic, mutagenic and reprotoxic) substances in France and a SLIC campaign on dangerous substances provided evidence that awareness at enterprise level is generally low, but that enterprises improved their policies after a labour inspection visit or when they got expert support. Companies preparing a risk assessment document compliant with occupational safety and health (OSH) are more successful in achieving substitution of hazardous substances than those neglecting their duties.
- Experiences from large substitution projects could help to scope future actions. The internet tool SUBSPORT gives practical support to companies. In cases where substitution is not applicable, practical solutions for minimisation should be shared within the Community.
- There is a general need to improve communication between all actors and share good practices on awareness raising, interventions and policies. EU-OSHA was asked to 'keep the momentum going', by organising workshops, seminars and expert groups to discuss the issues identified at the seminar. The Agency was also asked to address these topics (particularly data collection and monitoring, identification of vulnerable workers, and practical solutions) as part of their ongoing and future work.

Actions

General

- EU-OSHA to facilitate workshops dedicated to the priority topics identified at the seminar: sharing of data, identifying gaps, vulnerable workers, etc.
- EU-OSHA to support synergies between groups and networks
- EU-OSHA to build (a) platform(s) to bring experts and knowledge together

Exposure data

- A clear definition of the scope and resources required to underpin a case for an updated CAREX (CAREX-2) is needed. Experiences from other countries, such as Canada, should be integrated into the planning for CAREX-2.
- EU-OSHA to support exchange of existing information regarding exposure data available at national level (i.e. the proportion of those exposed, the duration and intensity of exposure, national cancer registers, disease registers, and cancers reported under compensation and insurance schemes). This exercise should always be based on data from real workplaces. Examples of relevant databases include exposure registers, Eurostat data, national cancer registers, job–exposure matrices and survey data.
- Enhanced cooperation is needed at European and national level between OSH enforcement authorities and REACH authorities to jointly collect and evaluate exposure data from the workplace in a harmonised approach. Occupational carcinogens (e.g. unintentionally generated substances) and related work processes outside the scope of REACH should be included in these activities.

Vulnerable groups

- Develop criteria to identify vulnerable groups and to collect evidence about workers occupationally exposed to hidden cancer risk factors or carcinogenic processes. What are the characteristics of vulnerable and hidden groups? What are their likely co-exposures and socioeconomic factors that impact on the risk of cancer? How does the wider context contribute to their cancer risk, for example by influencing lifestyle factors?
- EU-OSHA to support identification of 'knowledge gaps' about hidden and vulnerable exposed groups with the aim of supporting research projects, monitoring and workplace interventions.
- EU-OSHA to continue collecting and integrating relevant data on exposure and emerging risks with regard to cancer risk factors and carcinogenic processes.

Interventions

- Clarify what action can be taken to reduce exposure amongst hidden groups. Build on examples of successful interventions and campaigns, for example the experiences from the Netherlands and the French inspection campaign that were presented at the workshop.
- Develop strategies and targeted approaches for different enterprises. This could benefit from following the Dutch model for reducing non-compliance with OSH. It categorises employers/companies on the basis of their willingness to act and their level of knowledge with regard to controlling workplace exposures to carcinogens.
- Develop a clear overview of occupational carcinogens and related work processes outside the scope of REACH.

- EU-OSHA to consider building on SUBSPORT to collect 'minimisation examples' of successful actions that led to a significant reduction in exposure to carcinogens and other cancer risk factors.
- EU-OSHA to help in sharing information about interventions that consider the recent changes posing a particular challenge for labour inspections (move from industry to services, outsourcing, short-term and temporary contracts, intensification of work). How to inspect workplaces at clients' premises? How to follow up exposures of workers in constantly changing workplaces? How to raise awareness of exposures in the service sectors? How to build on successful examples of cases where these difficulties were overcome?

Return to work

- There is a need to identify the issues that are relevant for people with work-related cancer returning to work (such as changing to other duties, how to handle the stress of returning to a job that may have been related to their cancer, etc.).
- Develop better evidence about types of intervention that are effective for individuals returning to work after cancer of non-occupational causation and whether these interventions should differ for those whose cancer is work-related. Build on examples of successful interventions.
- It appears from the examples presented at the workshop that the first days after returning to work are key. Raise awareness of the importance of developing suitable return-to-work policies at enterprise level and support schemes through social partners, labour inspections and the public health system.
- As interventions in cooperation with the public health system have proven successful, consider cooperation with public health institutions and with those who treat patients.

Session 1A

Methods to assess exposure to carcinogens and the work-related cancer burden

The aim of this session was to discuss current and past efforts to assess the number of workers exposed to carcinogens, as well as the burden of work-related cancer. Different national approaches were presented (Finland, France and the United Kingdom), as were the underlying exposure data, for example from job–exposure matrices. The speakers also focused on how to improve the reliability of estimates of the occupational cancer burden and exposure data, describing the gaps or groups not covered and identifying possible causes of underreporting.

Speeches

The burden of work-related cancer in Great Britain

Dr Lesley Rushton, Imperial College London, United Kingdom

This work estimated the current burden of cancer in Great Britain attributable to occupation for IARC group 1 and 2A carcinogens and developed and applied methods to assess the future burden of work-related cancer. This work was undertaken to provide the United Kingdom Health and Safety Executive with an evidence base to prioritise the control of work-related related cancers. Attributable fractions (AFs) and numbers for mortality/incidence were calculated based on risk estimates from published literature. National data sources were used to estimate proportions exposed over the risk exposure period (REP), accounting for changing employment levels and turnover. The REPs took into account cancer latencies appropriate for long-latency cancers (solid cancers) and short latency cancers (haematological malignancies). To estimate the future burden of disease, latency periods of up to 50 years were used to estimate AFs for a series of forecast target years given past and projected exposure trends. The trends were modelled after applying national exposure limits, or levels of compliance with these exposure scenarios.

Cancer deaths attributable to occupation in 2005 were 5.3 % (8,023) (men, 8.2 % (6,366); women, 2.3 % (1,657)). Attributable incidence estimates were 13,694 (4 %) cancer registrations (men, 10,074 (5.7 %); women, 3,620 (2.1 %)). To inform priority setting, the overall results were ranked to identify the cancer sites, carcinogens and carcinogenic processes, and industries and occupations where the largest attributable burdens lay. Confidence intervals were calculated for the estimated numbers of cancer deaths and registrations, and the main sources of uncertainty and bias were identified. For the predicted future burden of cancer, it is estimated that work-related cancer incidence will rise to nearly 13,000 by 2060, given current trends in employment and exposure levels, if current exposure levels are maintained. No impact of any interventions will be seen until 2020–2030 because of the legacy of past exposure and the long latency of many cancers. With modest intervention, over 2,000 cancers can be avoided by 2060 and, with stronger intervention, nearly 8,500 can be avoided by 2060.

Conclusions

These results highlight specific carcinogenic agents and the occupational circumstances and industries where most exposures to these agents occur, facilitating prioritisation of risk reduction strategies. The methodology can be adapted for use in other countries and scenarios (e.g. environmental burden estimation) and to undertake social and economic impact evaluations.

The burden of work-related cancer in France

Dr. Annie Thébaud-Mony, National institute for Health and Medical Research (INSERM), Paris, France;
Dr. Émilie Council, University of Medicine, Paris, France

This presentation summarised three approaches that reveal the hidden burden of work-related cancer in France. The data used to assess the burden of cancer was gathered from institutional sources and the pro-active study led by the GIS COP (Groupement d'Intérêt Scientifique sur les Cancers d'Origine Professionnelle) 93 research team on work-related cancer in a Paris suburb.

French national and European surveys provide data on exposed workers in relation to job sectors and employment characteristics. The updating of these surveys allows changes to the number of exposed workers and the distribution of those exposed, as well as changes to the organisation of work, to be monitored. This information has shown an uneven division of risk amongst workers and in some cases these risks are hidden. Relatively small numbers of carcinogenic agents are typically considered in epidemiological studies estimating the work-related cancer burden. Multiple exposures are also generally treated summarily and time trends rarely considered.

In France, the official assessment of work-related cancer is based on cases compensated by health insurance, but work-related cancers are poorly represented in the list of compensated diseases. Compensation claims are dominated by asbestos-related cancer, and the process of compensation is dominated by proof of cancer causality. Consequently, work-related cancer is undernotified and undercompensated (even in the case of asbestos-related cancer) and many work-related cases remain hidden. Other institutional sources and the GIS COP study have provided evidence of an unrecognised work-related cancer burden among lower socioeconomic classes.

Conclusions

In conclusion, it is important to understand inequality and the deficit in prevention amongst hidden groups. The last Eurofound European Working Conditions Survey showed that exposure to chemicals is increasing, particularly amongst subcontracted and temporary workers employed in maintenance, cleaning and waste management. These are parts of a chain of handling hazardous substances where ineffective management of exposure typically occurs. This can also apply to those exposed to asbestos in recycling work, who are in the final stages of this hazard chain. In spite of changes in work organisation, no significant changes have been introduced to integrate prevention strategies with compensation systems.

The burden of work-related cancer in Finland and two exposure information systems (CAREX and FINJEM) including estimates of occupational exposure to carcinogens

Dr Timo Kauppinen, Finnish Institute of Occupational Health, Helsinki, Finland

The burden of work-related cancer in Finland has been estimated, using crude methodologies, to be 3 % of all incident cancers and 8 % of cancer mortality. The future burden is expected to decrease as a result of trends towards a decline in exposures to many carcinogens.

The International Information System on Occupational Exposure to Carcinogens (CAREX) includes estimates of the prevalence and numbers of exposed workers in 55 industries for 15 EU Member States in 1990–93. CAREX has mostly been used in hazard surveillance and risk/burden assessment, and has been updated in Finland (with exposure level estimates), Italy and Spain. New countries (Estonia, Latvia, Lithuania and the Czech Republic) have been added, and it has been applied in Costa Rica, Panama and Nicaragua (including for pesticide exposures). The database has also been modified for wood dust (WOODEX), with exposure level estimates for 25 Member States of the EU. A Canadian CAREX is being constructed, and the WHO estimate of the global burden of work-related cancer used CAREX and results from work-related cancer studies in the United Kingdom and other EU Member States.

The Finnish Job–Exposure Matrix (FINJEM) provides quantitative estimates of the prevalence and level of exposure for over 80 chemical, physical, microbiological, ergonomic and psychosocial factors for many occupations ($n = 311$) and eight time periods (1945–2009). FINJEM has mostly been used as an exposure assessment tool in occupational epidemiology. It is updated every three years and used regularly for hazard surveillance in Finland, since it provides trend data on specific agents, estimates of the numbers of exposed workers and their exposure level distributions. Future exposures until 2020 have been predicted, as have future burdens of work-related fatalities and diseases. FINJEM data can also be used in quantitative risk assessment. The construction of JEMs in Sweden, Norway, Denmark

and Iceland, and in the Nordic Occupational Cancer study (NOCCA), has benefited from the FINJEM database.

Conclusions

A revised CAREX is needed for all EU Member States (and the non-European countries covered by the database), and needs to include gender-specific and occupation-specific estimates. It needs to summarise uncertainties in the estimates and use crowd-sourcing to improve and update these estimates. Greater access to CAREX data through the internet is an essential objective.

If CAREX incorporated estimates of exposure levels it would serve better for hazard surveillance, for quantitative risk and burden assessment, and for setting priorities for prevention. Inclusion of data on important non-carcinogens and the time dimension of exposures and better use of exposure measurement data in estimations would also help to increase the value of CAREX.

Discussion

At the end of the presentations, the participants discussed the following issues:

- How to collect reliable information about those exposed to carcinogens.
- How to define limitations on what can be achieved.
- How to improve estimation of the prevalence and intensity of occupational exposure to carcinogens.
- How the EU and EU-OSHA could help to achieve these goals.
- Could practical actions be taken to inform the REACH process for carcinogenic substances (exposure scenarios, risk assessment, hazard classification)?
- Could better cooperation be organised between countries/initiatives and with other policy areas, such as public health?

Participants also discussed possibilities for updating the EU CAREX database and experiences with job–exposure matrices.

Conclusions

- There is a need to update data about the prevalence of exposures to occupational carcinogens, and the levels and duration of these exposures, and to establish exposure–risk relationships. An update of CAREX would help to address this gap, but it was recognised that other national sources of exposure data will continue to provide valuable information. If CAREX is to be updated, it is important that the default approach to summarising data is maintained. This will ensure that other countries can contribute to and use exposure data collected in CAREX.
- There is value in maintaining different approaches to assessing who is exposed and what carcinogens they are exposed to. No one approach can provide an entirely unbiased set of information. Assessments should build on a wider range of sources, a combination of exposure data, worker surveys and public health data, such as cancer registers.
- Studies in France have demonstrated hidden groups exposed to carcinogens, amongst migrants, part-time workers, and those employed as subcontracted staff. Their exposures were more diverse and difficult to follow up. These hidden groups were typically exposed to multiple carcinogens and faced socioeconomic problems that were likely to increase their risk of developing cancer.
- It is essential to define the purpose for which data on exposure and exposure prevalence will be used. Different levels of detail are needed depending on the aim, for example to set priorities for action by examining links between chemicals and industries, or to estimate the future burden of disease. If the aim is to estimate risk, then much more detailed and robust data are required.
- It is expected that as hazardous chemicals are registered under REACH more information on exposure to carcinogens will be provided in exposure scenario assessments. It would be desirable to have better access to toxicity data and details on exposure assessment without compromising the registrants' commercially sensitive information. It needs to be determined whether the

information collected for REACH will include estimates of the numbers and proportion of those exposed.

- A number of carcinogens identified as priority exposures are process-bound or complex mixtures (e.g. solar radiation, diesel engine exhaust, silica dusts, wood dust, welding fumes, etc.). To address these priority exposures, other sources of data will be needed.
- Across Europe (and elsewhere) many different types of exposure databases have been developed (e.g. EU SYNERGY ⁽¹⁾, which contains over 700,000 measurements, and EU WOODEX ⁽²⁾, which contains a large number of wood dust exposure measurements). These data could be very useful to EU countries where intervention strategies are less well developed.
- The Institute for Occupational Safety and Health of the German Social Accident Insurance (IFA) has constructed a large database ⁽³⁾ of hazardous chemical exposure data. However, these data are not available for wider use because of confidentiality issues.
- The EU social dialogue process provides examples of how to share exposure data with industry involvement. The social dialogue on silica dust resulted in the collection of exposure data, information about numbers exposed and work tasks where exposures occur, and information about health monitoring and strategies to control risk. Such dialogue agreements are an example of how partnership work can improve access to exposure data.
- Other sectors could follow this model and collect their own exposure data. They are best placed, as they have the best knowledge about the work processes and where exposures may be high. EU-OSHA's experience shows that initiatives at sectoral level involving both social partners are often successful. However, such initiatives cannot replace expertise, legislative measures and inspections.

⁽¹⁾ See <http://synergy.iarc.fr/index.php>; the SYNERGY project holds individual lifetime data on occupations and smoking history for > 17,700 lung cancer patients and > 21,800 control subjects. This database provides a tool for estimating the joint effects of occupational exposure to asbestos, polycyclic aromatic hydrocarbons (PAHs), nickel, chromium and silica.

⁽²⁾ See http://ec.europa.eu/research/quality-of-life/ka4/pdf/report_woodrisk_en.pdf.

⁽³⁾ See <http://www.dguv.de/ifa/en/gestis/mega/index.jsp>; IFA's exposure database, 'Measurement data relating to workplace exposure to hazardous substances' (Messdaten zur Exposition gegenüber Gefahrstoffen am Arbeitsplatz' in German, MEGA) is a compilation of data gathered through atmospheric measurements and material analyses since 1972.

Session 1B

Vulnerable groups

This session dealt with the identification of vulnerable groups that are at a higher risk of suffering from occupational cancer than the working population on average, because they are exposed to high levels of carcinogens or multiple carcinogens, or because of a lack of knowledge and awareness. Presentations dealt with the evidence base for exposures of different vulnerable groups, the identification of hidden groups by assessing cancer prevalence by occupation, and the importance of socioeconomic context and working conditions.

Furthermore, the need for return-to-work policies for workers affected by cancer was discussed and success factors for interventions were presented.

Speeches

Social inequalities and their impact on exposures to carcinogens and work-related cancer – what do we know

Dr. Elsebeth Lynge, University of Copenhagen, Denmark

This issue can be addressed from different perspectives. First, frequency of exposure to known carcinogens can be assessed, for example based on the list of IARC group 1 carcinogens, and used to estimate the impact of these agents on cancer incidence (the 'exposure to cancer' approach) Second, occupational differences in cancer incidence can be assessed, for example based on the NOCCA dataset covering cancer incidence in the Nordic countries, allowing for the identification of socially discriminating cancers.

Third, cancer incidence in occupational groups controlled for incidence of the respective socioeconomic groups can be assessed as a way to separate the effect of workplace exposures from those of lifestyle (the 'cancer to exposure' approach). Examples of these different approaches were presented.

Conclusions

- Variation in cancer incidence across occupational groups is much wider than the traditional variation because of 'occupational cancers'.
- Obesity, tobacco smoking, alcohol use, etc., are not solely personal lifestyle habits but also determined by the living and working environment (e.g. economic insecurity), which may be a consequence of one's occupation.

Return to work, employment and workplace adaptations of cancer survivors

Dr. Taina Taskila, Centre for Workforce Effectiveness, Helsinki, Finland, and

Dr. Sietske J. Tamminga, Coronel Institute of Occupational Health, Amsterdam, the Netherlands

Epidemiological evidence

An improved prognosis for many forms of cancer allows an increasing number of cancer survivors to return to work after treatment. A significant number of cancer survivors experience social problems in the workplace, such as lack of support and/or discrimination. They often also experience physical and emotional hurdles, such as fatigue, pain, anxiety and depression, all of which are symptoms that may become chronic. These effects cause impairments that diminish social functioning and have an impact on employment.

Cancer survivors were shown to be significantly more likely to be unemployed than healthy controls. The majority of studies have focused on identifying factors associated with employment and barriers to return to work. In the future, more emphasis should be put on factors that cause recurrent sick leave and early departure from working life. Studies designed to take into account both internal and external factors are warranted to enhance successful return to work and work retention of cancer survivors.

Return-to-work strategies for workers affected by cancer: policies and interventions

If and how a cancer survivor is confronted with adverse work outcomes is a complex phenomenon influenced by various factors and stakeholders.

Interventions aimed at managing the adverse side effects of cancer treatment may reduce these negative outcomes. In this respect, factors such as physicians' advice about work, self-assessment of work ability, interventions addressing misconceptions about work ability, interventions aimed at facilitating workplace adaptations, and improving guidance from occupational physicians and for employers are important.

An individual approach is required, as the differences among cancer patients are large.

Conclusions

- Studies should take into account internal and external factors that affect successful return to work.
- Interventions to address return-to-work problems should concentrate on those approaches that have been shown to work effectively with regard to disease rehabilitation, work conditions restructuring and personal characteristics.
- Early intervention is most appropriate, because the longer the duration of sick leave, the more difficult return to work is to achieve.
- Both the institutional and the cultural contexts of a country, which differ greatly among developed countries, have an effect on return to work. Therefore, return-to-work policies for cancer survivors should be tailored to each country.

Work-related cancer and vulnerable groups

Dr. Tony Musu, European Trade Union Institute (ETUI), Brussels, Belgium

In Europe, work-related cancer is now the main cause of death by working conditions. Analysis of the data reveals differentiated exposures to carcinogens by social status categories. Skilled and unskilled manual workers are exposed 10 times more often than managerial staff. The exposure of vulnerable groups of workers to occupational carcinogens remains poorly investigated and it is probably underestimated. Some data are available for women, young workers and ageing workers. Less information is available for temporary and part-time workers and low-skilled migrant workers. Existing strategies to overcome the underestimation of exposure include active research projects (SUMER (Medical Monitoring Survey of Professional Risks) and GISCOP 93 in France and the OCCAM (Occupational Cancer Monitoring) project in Italy), better enforcement of EU OSH legislation, the creation of national exposure databases and continued epidemiological research on occupational and environmental cancer risks. All workers (including vulnerable groups) are likely to benefit from the new EU legislation on chemicals (REACH). Better workers' representation and better access to preventive services in companies employing vulnerable workers should help to reduce work-related cancer risks. Finally, awareness-raising campaigns targeted at specific industrial sectors might also be useful.

Conclusions

- A sector-based approach to raising awareness among vulnerable workers will help to improve information on carcinogen exposure.
- Preventive services should be available to all vulnerable workers (and indeed to all workers).
- Substitution of carcinogens should be actively pursued.

Discussion

Participants discussed the following questions:

- Which other approaches exist to identify vulnerable workers? There was an exchange of experiences among participants.
- What are the strengths and weaknesses of the different initiatives?
- What could the EU learn from national experiences?
- Can knowledge and methods be transferred between countries?
- What other knowledge gaps need to be addressed to identify key intervention models for occupational carcinogens and other risk factors for work-related cancer?
- How can we assess the success of interventions for cancer as a long-latency disease?
- Which areas can be identified where we need further actions (communication, awareness raising, monitoring, prevention)?
- What could be the role of EU-OSHA?

A major part of the discussion dealt with defining the concept of 'vulnerable groups'. A participant suggested linking the definition more closely to the recent report from the European Parliament ⁽⁴⁾ on this issue, which lists most of the groups mentioned.

There is an increasing number of workers belonging to vulnerable groups, as a consequence of trends in employment (from industry to services; towards temporary work and short-term contracts; and towards outsourcing of maintenance and low-skilled work). More research is needed to identify and quantify these groups in more detail. More stringent enforcement is needed to make sure that workers belonging to these groups are at greater risk.

Vulnerable workers can be divided roughly into two groups:

1. Workers with higher intrinsic risks of cancer, for example women of reproductive age exposed to chemicals, such as cleaners; young workers (15–24 years), who are likely to be exposed for much longer periods and to more diverse risks; and, possibly, ageing workers.
2. Groups with higher extrinsic risks of cancer, for example workers more heavily exposed to carcinogenic agents in 'blue-collar' jobs, in lower socioeconomic classes with higher occupational mortality; temporary workers; workers in 'dirty jobs', often outsourced; and migrant workers.

People who have suffered from cancer are a 'vulnerable group' in themselves, as are other workers with chronic diseases. Among these, workers who have previously suffered from work-related cancer (and who continue to be exposed to carcinogenic agents similar to those which caused their cancer) are a specific group to be considered.

Repeated co-exposure to a large range of chemicals may also contribute to risk of cancer amongst these groups.

Co-exposures with lifestyle-related risk factors are probable, and these workers may have limited scope to adapt their working conditions, owing to shift work or limited access to healthy food or to facilities where they can eat and drink (e.g. outdoor workers). In the case of workers with a low awareness of risks or limited access to training and information (waste workers, service sector workers, migrant workers); taking these factors into account would allow specific actions to be taken to improve the situation for these groups.

Regarding return-to-work problems, attention was paid to the difference between workers affected by cancer and workers returning to work with cancer attributable to occupational causes.

Conclusions

- Research into, interventions relating to and recognition of work-related cancers need to consider changes in the world of work (e.g. increases in subcontracting, temporary work, multiple jobs,

⁽⁴⁾ *Occupational health and safety for the most vulnerable workers*, European Parliament, 2011. Available at <http://www.europarl.europa.eu/document/activities/cont/201108/20110829ATT25418/20110829ATT25418EN.pdf>

working at clients' premises with limited possibilities for adaptation, static work, female employment in exposed occupations, atypical working times and multiple exposures; the move from industry to service sectors; etc.). EU-OSHA could help in raising awareness and providing data and evidence on emerging risks, as well as on good-practice solutions and policies.

- There is an increasing need to identify vulnerable and hidden, groups, whose occupational exposure to cancer risks and carcinogenic processes is underrepresented in exposure data and intervention strategies. Vulnerable and hidden groups are typically found amongst migrants, part-time workers and those employed as subcontracted staff. Women and young workers, typically in service occupations where awareness of chemical risks is low, may also be at risk.
- A broader view on the causes of work-related cancer is needed. Lifestyle factors such as obesity, tobacco smoking, alcohol use, etc., are not solely personal, but can also be determined by the living and working environment (e.g. economic insecurity, access to healthy food and facilities, easy access to alcoholic beverages at work, the way work is organised).
- With better medical treatments, cancer has increasingly become a chronic condition. More workers are therefore likely to return to work after treatment. However, few targeted rehabilitation and return-to-work strategies currently exist, and these were originally developed for a number of other work-related health conditions (e.g. musculoskeletal disorders). Interventions to address return-to-work problems could benefit from experiences of interventions that have been shown to work effectively. The first days after the return to work are crucial, so enterprises should be prepared to adapt working conditions to the specific circumstances of the returning employee from an early stage.
- Cancer survivors were shown to be significantly more likely to be unemployed than healthy controls. In the future, more emphasis should be put on identifying factors that cause recurrent sick leave and early departure from working life.
- Substitution of carcinogens should be actively pursued.

Session 1C

Cancer prevention: action plans and campaigns to prevent work-related cancer

The presentations in Session 1C focused on ongoing activities in the Member States and at European level for the prevention of work-related cancer. Examples of successful interventions, policies, campaigns and tools were presented: an internet tool providing instructions on successful substitution (SUBSPORT) was introduced; the German health-based minimisation approach to exposure to carcinogens was explained; and successful awareness-raising and inspection campaigns from France and Spain were included among the range of initiatives presented.

The aim of the session was to promote exchanges between the participants, Member States, experts and organisations on different approaches, and to identify further needs in communication, awareness raising, monitoring and legislation.

Speeches

SUBSPORT – the Substitution Support Portal

Dr Steffen Brenzel, Kooperationsstelle Hamburg IFE, Hamburg, Germany

Substitution is the preferred measure to reduce the risks hazardous chemicals pose to workers, the environment and public health. However, finding a safer substitute can be a challenging task. The SUBSPORT web portal is a free-of-charge, multilingual platform for information exchange on alternative substances and technologies; it also offers tools and guidance for substance evaluation and substitution management. It includes a database of substances that have been banned or restricted (or for which bans or restrictions have been proposed) by authorities, trade unions, companies or NGOs, as well as a case story database presenting substitution examples from companies and published reports. A training concept and free training sessions are offered in various languages to provide the participants with basic substitution concepts and tools for alternatives assessment.

SUBSPORT aims to be the first entry point for anyone interested in substituting hazardous chemicals, to support companies in fulfilling substitution requirements within EU legislation and to be a resource for other stakeholders, such as authorities, environmental and consumer organisations and scientific institutions.

SUBSPORT is run by four partner organisations – Kooperationsstelle Hamburg IFE, the Spanish Union Institute of Work, Environment and Health (ISTAS), ChemSec (the International Chemical Secretariat) and Grontmij – and funded by the LIFE+ Programme of the European Union, the German Federal Institute for Occupational Safety and Health (BAuA) and the Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management (Lebensministerium).

Conclusion

Substitution – as risk reduction measure of first choice – can be facilitated by exchange of information and training via the web portal SUBSPORT (www.subsport.eu).

The Spanish CCOO campaign ‘Zero Cancer’

Ms Claudia Narocki, ISTAS, Madrid, Spain

CCOO (Workers’ Commissions) is a leading Spanish trade union confederation. After several years of campaigning for the prevention of occupational disease and to raise awareness of the burden of occupational disease, the CCOO decided to put occupational cancer prevention at the top of its agenda for health and safety at work. To achieve a reduction in work-related cancer, in 2011–12 the CCOO launched a campaign with the following objectives:

- identification of carcinogens in the workplace;
- elimination of the use of carcinogens in the workplace;
- if elimination cannot be achieved, reduction of the use of carcinogens and better control measures in the workplace;
- increased social awareness of occupational exposures and work-related cancer; and
- improved legislation and enforcement based on the experiences exchanged during the campaign .

The campaign, still ongoing, has four levels of action:

1. In the workplace: fostering workplace health and safety delegates' activities regarding work-related cancer risks and promoting the action plan 'Zero Cancer'.
2. Within the trade unions: supporting federations to set up their own agendas.
3. At policy and legislation level: keeping up the pressure on public authorities to adopt stronger political measures and tighten up existing legislation, especially to grasp the opportunities offered by REACH.
4. At community level (generally): creating alliances with social actors for community action.

Conclusion

A general approach to reducing cancer has been successfully implemented in Spain, with the aim of achieving 'zero cancer at work'.

The German exposure risk management model

Prof. Dr. Herbert Bender, BASF, Ludwigshafen, Germany, and

Dr. Henning Wriedt, Beratungsstelle Arbeit und Gesundheit, Hamburg, Germany

The EU Carcinogens and Mutagens Directive (Directive 2004/37/EC, CMD) describes basic safety measures. If substitution is not achievable/applicable, exposure minimisation is compulsory.

The new German approach to occupational carcinogens is risk-based, its substance-independent framework concept consisting of four main elements: three risk bands and a tiered control scheme.

The quantity 'risk' is defined as the statistical probability of contracting cancer due to continuous exposure to a carcinogen during the whole working life (of 40 years). The German Committee on Hazardous Substances agreed on an upper risk limit of 4 : 1,000, and a lower risk limit of 4 : 10,000 (to rise to 4 : 100,000 in 2018), comparable to the accepted risks for the general public. The upper limit should not be exceeded at all; the lower limit is a target for risk reduction, as below it exposure minimisation becomes optional.

A precondition for the application of this approach to specific carcinogens is the derivation of the ERR (exposure–risk relationship). ERRs have been derived for 15 carcinogens, and work is ongoing for another 14.

For application in the workplace, for certain carcinogens it may be necessary to consider other parameters in addition to the two concentration values, such as the existence of non-malignant toxic effects below the tolerable concentration; environmental background exposure above the acceptable concentration; or a limit of detection above the acceptable concentration.

Conclusions

- As long as we cannot eliminate the use of carcinogenic and mutagenic substances, they present a risk for workers.
- Carcinogens vary in their carcinogenic potential.
- The German exposure risk management model defines tiered risk management measures based on the risk a carcinogenic or mutagenic substance poses.

French governmental plans and national labour inspectorate campaign

Jessy Pretto, Labour General Directorate, Ministry of Social Affairs, Employment and Solidarity, Paris, France

French national inspection campaigns concerning employees' exposure to hazardous substances contribute to actions set out in the French government's plans; these actions were needed in particular because between 2005 and 2010 the number of occupational diseases increased by 20 %. Since 2008, the Labour General Directorate, in partnership with the national Agency for Food, Environmental and Occupational Health and Safety (ANSES), has identified 82 CMR substances which are subject to a search for substitution products.

Actions in different plans converge in synergy and complementarity to aim at the following goals:

- replace toxic products in the workplace and promote the development of alternative methods; and
- reduce employee exposure to CMR substances.

The main results and assessments of labour inspection campaigns carried out over the past two years have focused on workers' exposures to chemicals, radiation and asbestos.

During the workshop, results of the chemical risk campaign were presented. The campaign targeted vehicle repair and industrial cleaning companies. A main result for both industries was that compliance with chemical risk legislation significantly improved among enterprises that employed more than 50 people. Companies that had prepared a risk assessment document showed much higher levels of substitution of hazardous substances than those that had neglected their duties.

Chemical risk is taken into account by only about 40 % of companies in the mandatory risk assessment document. The obligations concerning training of workers and traceability of exposures are insufficiently met. However, the requirements for protection measures and for waste management are significantly better respected.

Conclusions

- Working through government plans (a national action plan on cancer and a national OSH strategy) and fostering actions by state services in partnership with other institutions could help to develop a more productive relationship between public health and occupational health.
- Labour inspection campaigns contribute to ensuring the application of regulations and provide opportunities to increase effective implementation at shop floor level.
- Companies' OSH performance improved after they were visited by labour inspectors.

Discussion

The following questions were discussed:

- What are the experiences from campaigns and what could the EU learn from these national experiences?
- What other approaches and types of intervention models/campaigns exist in the EU? What other interventions models have Member States, or other countries, tried?
- Which types of further action do we need (communications, awareness raising, monitoring, etc.)?
- What could be the role of EU-OSHA?

The discussion focused initially on the SUBSPORT tool, which has been developed for a wide audience (including small and medium-sized enterprises) to facilitate the process of substituting hazardous substances. A comprehensive data pool about substitution of hazardous substances, including many carcinogens, was compiled using the experiences of companies all over Europe. This is being used to promote an exchange of ideas that will help to inspire other companies to engage with substitution. It was agreed that more should be done to promote and widen the scope of SUBSPORT, adding more information about toxicological hazards and other elements of safety at work. Progress with updating SUBSPORT is being limited by a shortage of funding.

Where substitution of carcinogens is not possible, exposure minimisation should be implemented. It was suggested that a tool comparable to SUBSPORT could be developed to help to exchange knowledge about measures for minimising use of and exposure to carcinogens. Guidance about best practice in this area needs to be developed and then communicated.

The discussion then addressed the subject of small and medium-sized enterprises which do not have the money or capacity to train staff as experts in risk management measures for work with carcinogens. They may require expert advice for risk assessment and risk control. Practical experience shows that many of these companies avoid costly technical measures, or substitution, if there is no pressure from legislation and enforcement. Therefore, enforcement activity is a key element of effective risk reduction, alongside education and training about substitution and reduction. In this context, the implementation of a control strategy alongside advice and guidance is usually required.

A contribution from the Netherlands highlighted that its inspectorate does not emphasise special enforcement for carcinogens but inspects compliance with the legislation on safely managing all substances defined as hazardous. In this process, they check companies' inventories of hazardous materials, their risk assessments, and the overall measures and effectiveness of these measures in controlling exposure; this is done in a stepwise manner.

The Netherlands Organisation for Applied Scientific Research (TNO) has developed a process for categorising companies into one of four groups based on their willingness to engage with the challenges posed by working with carcinogens. These groups are:

- the willing and knowing;
- the willing and not-knowing;
- the not willing and knowing; and
- the not willing and not knowing.

The categorisation helps to address different type of companies with different approaches to achieve compliance.

The next part of the discussion focused on industrial initiatives at EU level and in France, which successfully promoted substitution. At EU level, for example, CEFIC (the European Chemical Industry Council) is promoting notification and risk assessment of substances of very high concern. A position paper on substitution by industry representatives has been published.

In France, voluntary agreements on CMR substances have been signed by the government, workers and the Labour Ministry, INRS (Institut National de Recherche et de Sécurité), CNAMTS (Caisse Nationale de l'Assurance Maladie des Travailleurs Salariés) and professional organisations (employers) to improve training, risk assessment and substitution. In addition, some specific agreements cover dedicated substances (formaldehyde, wood dust). The agreement concerning formaldehyde includes a research and development programme to find substitutes for formaldehyde in glues used in the panel industry.

The general discussion came to the conclusion that several approaches – awareness raising, guidance and support, but also legislation and enforcement – are necessary. The effectiveness of each approach also depends on the willingness and knowledge of each specific company. It was also emphasised that an exchange of experiences about ongoing activities at European level is necessary. Therefore, the implementation of a permanent expert group was proposed.

Conclusions

- The creation of a comprehensive data pool for substitution fed by the experiences of companies all over Europe helps to exchange experiences and inspire future substitution. It was generally agreed that it is necessary to further promote and widen the project: SUBSPORT needs more support. A next step could be to widen the scope to address work-related hazards beyond toxicological issues.
- Where substitution is inapplicable, minimisation has to be applied. A tool for guidance about best practice on minimising exposure to carcinogens is required. A strategy to implement this is needed. Guidance on best practice needs to be agreed on and communicated.
- EU-OSHA should collect information about national campaigns, strategies and concepts, and how to best summarise this information so that it is accessible to the general public.

- In addition to guidance, enforcement is a key element of effective risk reduction. Generally, work-related risks seem to be reduced by regular controls and advice.
- The ECHA Forum could learn from national experiences and would welcome national proposals for integration into the EU-wide enforcement strategy, which Member States can also integrate into their national enforcement strategies. However, it was emphasised that REACH does not cover all the carcinogenic and mutagenic substances that workers may be exposed to. REACH-registered carcinogens cause only a fraction of known occupational cancers.
- Different industries, and sizes of business, will require the application of bespoke approaches. These different approaches will need to combine:
 1. awareness raising amongst companies, in politics and to the general public;
 2. sources of expert advice for companies;
 3. greater commitment to enforcement of regulations; and
 4. appropriate legislation.
- It was recommended to build on experiences from the Netherlands, to target companies and to improve their compliance with different advice and enforcement approaches.
- Risk reduction could be improved by active communication between all actors and better coordination.
- The discussion concluded that further exchange of experiences and ongoing activities were required. Therefore, it was suggested that a permanent expert group should meet on a regular basis to put these tasks into execution.

Panel discussion

Panel Moderator: Dr. Alicia Huici-Montagud (Ministry of Employment and Social Security, ES)

Panel members:

- Alick Morris (EU DG Employment)
- Ulrike Kowalski (ECHA Forum)
- Dr. Heiner Wahl (WPC/Ministry of Labour and Social Affairs, DE)
- Frank Barry (Irish Congress of Trade Unions, IE)
- Dr. Patrick Levy (Rhodia/Mouvement des Entreprises de France (MEDEF), FR)
- Prof. Leonard Levy (SCOEL)
- Nathan Kuper (SLIC/Dutch Labour Inspectorate, NL)

A panel discussion between the representatives of DG Employment, ECHA, WPC, SCOEL and SLIC addressed the issues that had arisen from the discussions on the three main topics.

Data collection, CAREX

The discussion first focused on the best way to set up a successor to the CAREX project. DG Employment could help to fund this initiative but would require a business case to be submitted. They were also willing to help to create better connections with Eurostat to facilitate collection of data. It was stressed that, to make this work, it would be very important for project planners to define very clearly what they wanted to achieve with this project and how they planned to proceed. The need to define the aims of this project at the start was emphasised by a couple of panel members. Setting up and running a project is one thing, but one should also plan for follow-up actions and consider the funding of these follow-up actions, to ensure that the impact of the project continues.

In defining a proposal for a CAREX-2 project, it would be worthwhile to look at similar initiatives going on outside Europe (e.g. in Canada). Good approaches from those projects could be integrated into an EU proposal.

The employer's representative emphasised the importance of developing data that would allow EU-wide epidemiological studies. Moreover, he found it very important to make sure that any outcome of such studies would have an impact at shop floor level.

Many speakers expressed their wish to see more systematic exchange of data and good practice between EU countries. It would be helpful to define the aim for which the data are required. The limits and drawbacks of the different methods for data acquisition can be assessed and evaluated with regard to their impact on the use of the data. There are various questions that could usefully be asked before data is gathered. For example, is the aim to improve estimates of cancer prevalence or of numbers exposed, or is the main aim to rank these outcomes to help prioritise in advance of interventions? How should the risks be calculated and how far do these depend on the estimated numbers of workers exposed? What are the best means to estimate uncertainties and how will these uncertainties influence decision-makers? We also need to be aware that many carcinogens may not have been assessed and that most carcinogens that cause occupational cancer are not covered by the REACH legislation.

However, access to data is limited and there are other issues, such as confidentiality, to take into account. For example, the MEGA database developed by the German social insurance industry contains a very large amount of exposure data, but access to it is limited. To ensure that the collected data is not traceable to the enterprises in which the measurements were conducted, specific bodies (e.g. the BAuA) receive an anonymised data set on request.

It was also mentioned that the data collected through REACH registration will have to include exposure scenarios based on exposure data. It is expected that scientific bodies other than those of the ECHA, such as SCOEL, will require some access to these data. SCOEL would like to be able to make optimal use of these data to prioritise the selection of carcinogens for further research and to establish limit values that would better fit with ongoing priorities. In this context, the SCOEL representative explained their procedure for setting limit values for carcinogens.

Impact at shop floor level

The discussion also considered how best to take scientific knowledge about carcinogens to shop floor level. In this respect, the role of enforcement both nationally and internationally was emphasised.

Ulrike Kowalski (ECHA Forum secretary) proposed that Member States might pay more attention to the synergies between enforcement activities by REACH/ Classification Labelling and Packaging authorities (and the ECHA Forum for exchange of information on enforcement) and national labour inspectorate initiatives. However, a typical labour inspector will usually be much more focused on machine-related safety than on chemicals. It is not easy to adapt REACH to the workplace, and labour inspectors need support and training. REACH describes general substance-related provisions for workplaces, but the inspectorates need to consider the specific situation of each workplace and all exposures.

A 'demystification' of the role of chemicals, as far as their influence in the workplace is concerned, would be helpful. It was suggested that EU-OSHA should have on their website some real-life examples of situations where people successfully reduced risks.

Review of the Carcinogens and Mutagens Directive

An exchange of ideas took place on mid- and long-term hopes for modifications of the Chemical Agents Directive (CAD) and the CMD. It was mentioned that in the long term a much closer link and greater synergy between worker protection legislation and legislation to control chemicals in general (like REACH) should be created, as should a closer link between the CAD and the CMD.

Dealing with different types of carcinogens

In the discussion, special attention was paid to the role of non-threshold carcinogens. It was stated that so far the CMD has not discriminated between threshold and non-threshold carcinogens. The German risk management model, which may also be used in the context of REACH authorisations, may help here to create a more transparent view on residual risk. The opinion was brought forward that discrimination between the two types of carcinogens would definitely help to link the CMD and REACH more effectively. SCOEL has worked out a procedure to deal with threshold and non-threshold carcinogens where it is the carcinogenic mode of action of the substance, not the classification that is important, thus dealing with carcinogens in a different way (i.e. formal occupational exposure limits vs. a risk-based approach).

Vulnerable groups

Regarding the issue of vulnerable groups, it was generally recognised that more effort should be put into identification of such groups and specific actions to improve their situation. The question was asked if a revised CMD would also be of help to groups such as the self-employed and home workers. In principle, European labour laws are valid for all workers. No discrimination should be made between regular workers and those with temporary contracts. However, to make this work in the workplace is a challenge. Comments confirmed that enforcement is generally the weak link in the chain. EU-OSHA could therefore be active here as well, by promoting an exchange about effective interventions and raising awareness about the gaps.

The potency of REACH authorisations (once in place) would also strengthen the position of OSH enforcement. However, in reality this will be a slow process, starting with a few substances.

A final comment from the panel emphasised that without the right funding for occupational safety research and without attracting competent people no satisfactory results can be expected. Legislation as it exists is sufficient; it just needs to be implemented in an effective way.

Conclusions

- An update on CAREX would be useful, but needs further funding. Before the project is launched the intended use should be clearly defined.
- The systematic exchange of existing data and good practice between EU countries should be increased.
- Synergies should be found between national inspectorate experiences and harmonised enforcement coordinated by the ECHA Forum.
- Synergies in enforcing legislation should be increased. However, it should be realised that key aspects of enforcement activity are not identical to REACH obligations.
- REACH legislation does not cover all carcinogens that cause work-related cancer.
- SCOEL would like to use REACH data for prioritisation of substances for setting exposure limits.
- An update of the CMD is ongoing. Only minor changes are expected. More fundamental changes and a possible merging with the CAD would take much more time to initiate.
- The discrimination between threshold and non-threshold carcinogens is already considered in REACH and in SCOEL but not in the CMD. The link between REACH and the CMD would benefit from the inclusion of the threshold concept in the CMD.
- More effort should be put into the identification of vulnerable groups and specific actions should be implemented. The CMD might consider hidden groups.
- In principle, existing legislation is adequate. Enforcement, both nationally and internationally, is the key issue to guarantee OSH. The right funding and staffing and coordinated action are needed.

Closing remarks

In the summary of the discussion, the moderator suggested that EU-OSHA publish the information presented at this workshop and form an expert group to help convert the questions identified at the workshop and emerging findings and initiatives into specific actions.

All three groups and the panel agreed that vulnerable groups are an important topic and that the perspective needs to be broadened to include groups that have little OSH knowledge, experience multiple exposures, have limited scope for adapting working conditions or do low-skilled work, service workers with little access to preventive services, and service and maintenance workers who work at clients' premises. EU-OSHA has already done some work on these issues (gender, young workers, migrants) and will continue its efforts.

The groups and panel called for a wider perspective and the use of more diverse data sources to build an adequate picture of the situation: employment data and worker survey data should be combined with exposure and health data, for example from cancer and other disease registers. EU-OSHA has an ongoing cooperation with Eurostat on data related to health problems, chronic diseases and occupational diseases; for example, there will be cooperation in the context of a major project on ageing workers. Workers' experiences, information from their work biographies and medical history and results from worker surveys are important sources to complement exposure data and help fill gaps. Examples were presented in the sessions.

Elke Schneider summarised the workshop and gave an overview of follow-up activities. She made the link between the first and third session: **data should be for prevention, that is, useful for helping to target prevention at shop floor level and in workplace interventions.**

Conclusions

What is needed regarding monitoring:

- Tools for estimating the burden of work-related cancer have been developed in Europe (e.g. United Kingdom, France and Finland) and can be used at EU level.
- Input data exist but are hard to collate (e.g. getting detailed labour statistics from Eurostat is difficult).
- Getting figures for prevalence of exposure will be the hardest part.
- Exposure measurement data are abundant for some of the most important cancer risk factors (except perhaps solar radiation and shift work), most of which are not covered by REACH.
- CAREX is outdated (1990–1993) and not detailed enough.
- CAREX-2 is clearly needed, that includes new features (other than prevalence of exposure by industry, such as information on prevalence broken down by exposure intensity, prevalence broken down by gender, and temporal trends in exposure intensity and prevalence.
- General population surveys (among cancer patients or in general) are needed to validate the CAREX-2 estimates of prevalence of exposures, and more importantly to get a picture of 'forgotten' workers and exposures (e.g. populations never studied but performing outsourced hazardous tasks).

Which type of further action do we need? (communication, awareness raising, monitoring, etc.)

- awareness raising
- improved enforcement
- increased coordination/communication via the ECHA Forum?
include carcinogens in general management approaches: focus on measures not on carcinogens!
- develop return-to-work strategies, as for mental health and MSDs
- advice *and* enforcement necessary
- follow-up by periodical (if possible annual) revision of the state of the art (of actions suggested at the workshop), improvements and priority goals?

Through its networks, EU-OSHA has also gathered information from Member States on the links between OSH and REACH and how they work in practice; this information will be shared with SLIC and Advisory Committee on Safety and Health at Work groups.

Elke Schneider undertook on behalf of EU-OSHA to:

- help broaden the view, bring together information about multiple exposures and vulnerable workers, help build the evidence base;
- gather examples of good practice dealing not only with specific substances but also with other approaches and risk communication activities.
- collect information on return-to-work practices for workers affected by cancer, as is done for mental health and MSDs;
- continue cooperation and develop synergies with SLIC, Chemex, WPC and ECHA, especially the Forum; and
- provide support where REACH reaches its limits, in addition to a substance by substance approach also gathering information on sectoral initiatives and translation to workplace level.