

## MEETING: EXPERT MEETING “VALUE OF OSH”

### OSH Experts discuss the value of occupational safety and health

An expert meeting on the value of occupational safety and health (OSH) took place on 10 and 11 October at the EU-OSHA's premises in Bilbao. Leading OSH experts and representatives from ILO/WHO and ICOH looked at the findings of the second stage of EU-OSHA's project to estimate the costs of occupational injuries, diseases and deaths at European level. Presentations were given on the national cost-estimation approaches of Austria and Finland and the future of this research area was discussed.

The European Agency for Safety and Health at Work (EU-OSHA) seeks to inform decision-makers in the areas of policy-making, business and science so that they can better understand the economic effects of occupational safety and health. To that end, EU-OSHA provides research results from a variety of methodologies which examine the economic effects of work-related accidents and illnesses on society and business.

For example, over the last few years, research projects cost-benefit analyses of occupational safety and health measures for small and medium-sized enterprises (SMEs) have been carried out and possible economic incentives for preventive action have been analysed, such as points systems for accident insurance. EU-OSHA's latest project focuses on the macro level and looks at the societal costs that can arise as a result of insufficient preventive action with a European and international comparison. This is in line with the European Commission's priority in the EU Strategic Framework on Health and Safety at Work 2014-2020. <sup>1</sup>

Forming a comprehensive estimate of the societal cost of work-related accidents and illnesses is a complicated and complex task. However, it is essential that decision-makers recognise the consequences of insufficient preventive action and subsequently plan effective measures in different policy areas. If the economic effects on people's quality of life and work are not expressed in equivalent financial terms, there is the danger that they will not be sufficiently heeded, be it in the political sphere or in people's daily lives.

#### 1.1 EU-OSHA activities on societal costs of work-related diseases and accidents

EU-OSHA thus aims to address this need in its two-stage overview project 'Costs and benefits of occupational safety and health', which aims to develop an economic costing model in order to produce reliable estimates of the costs. In phase one, a large-scale study was carried out to identify and assess the data available in each Member State that can be used to develop a model for calculating costs (2017 <sup>2</sup>).

<sup>1</sup> <http://ec.europa.eu/social/main.jsp?catId=151&langId=de>

<sup>2</sup> <https://osha.europa.eu/en/tools-and-publications/publications/estimating-cost-work-related-accidents-and-ill-health-analysis/view>

In phase two, an estimation model has been created for the economic costing on the basis of internationally available data sources (EU-OSHA in cooperation with the International Labour Organization (ILO), the Finnish Ministry of Social Affairs and Health, the Finnish Institute of Occupational Health (FIOH), the Workplace Safety and Health Institute in Singapore and the International Commission on Occupational Health (ICOH)).

Further, the second phase developed a more sophisticated economic costing model based on national data sources for Finland, the Netherlands, Germany, Poland and Italy. During the meeting this report entitled “The value of occupational safety and health and the societal costs of work-related injuries and diseases”<sup>3</sup> (2019) was presented by two authors of the study, Martijn van Emmerik, Thijmen van Bree, TNO, The Netherlands.

Injuries, diseases and deaths are associated with various types of costs. First, there are direct costs, such as healthcare costs. There are also costs resulting from losses in productivity and reduced output. Then there are costs associated with the impact on well-being — that is, the impact on people’s lives and health — that can be quantified and included in an estimate of the burden. In each case of work-related injury or disease, these elements are involved and the addition of the costs of all cases would produce an estimate of the total occupational burden of injury and disease. This way of arriving at a cost estimate — that is, adding the various costs mentioned above to produce an estimation of total costs — was termed a ‘bottom-up approach’.

A ‘top-down’ approach can also be taken: total costs are estimated by calculating the total burden of injury and disease, and estimating the part of this total caused by occupational factors. Subsequently, the costs associated with the burden of occupational injury and disease can be estimated. These costs are expressed in terms of existing measures of health, such as disability-adjusted life years (DALYs).

In this project, both approaches are being taken, as follows:

- a bottom-up model taking into account direct costs, indirect costs and intangible costs (effects on quality of life and health);
- a top-down model based on the monetary value of work-related DALY.

As a first positive feedback from policy level, the report was extensively cited in the opinion of the European Economic and Social Committee for the Finnish EU-Presidency<sup>4</sup>.

## 1.2 Austrian and Finnish national cost estimation approaches

After the latest EU-OSHA cost estimation study for five countries was presented and discussed, the meeting continued with examples of national cost estimations, namely from Austria and Finland.

The study “Estimation of the costs of work-related injuries and diseases in Austria” (Thomas Leoni, Anna Brunner, Christine Mayrhuber (WIFO)) was established following the approach of the EU-OSHA report, developing a bottom-up and top-down model. The motivation behind the research is that there were no international comparable and recent cost estimations available for Austria. Generally, the researchers found it easy to follow the EU-OSHA report, but a few minor adaptations to the Austrian situation had to be made. It is still too early to provide a sound interpretation of the findings, but preliminary results suggest that Austria has a comparatively low number of cases, but comparatively high costs per case. It is possible that long-term absence following work-related diseases could be a main cost driver. This would suggest policy measures such as a better reintegration of workers with health impairments in the work process after an accident or disease.

<sup>3</sup> <https://osha.europa.eu/en/tools-and-publications/publications/value-occupational-safety-and-health-and-societal-costs-work/view>

<sup>4</sup> <https://www.eesc.europa.eu/en/our-work/opinions-information-reports/opinions/summary-costs-and-benefits-investments-occupational-safety-and-health-osh-exploratory-opinion-request-finnish-presidency>

Next, the research work “Finnish cost estimation approach - methodology and impact” was presented (Mikko Rissanen, Päivi Hämäläinen, Wiking Husberg, Ministry of Social Affairs and Health, Finland). The desired outcome was to focus on prevention instead of provoking academic discussions. Therefore, a tri-partite advisory group was established, developing a new methodology to calculate/estimate the monetary costs. It was aimed at achieving a joint understanding and agreement on what can be calculated and what methodology to use.

Of course health and safety is a basic human right, but in today's world, showing the cost of lost labour input has an impact on prevention. The enterprises cannot see the total cost of poor working conditions in their bookkeeping, it requires them to carry out additional calculations. Therefore Finland has developed a calculation method for enterprises<sup>5</sup> The Finnish cost estimate is able to assist policy and decision makers in making informed decisions on prevention. Its tri-partite agreement on the calculation results is crucial for its impact and adds to its credibility. It was concluded that a common calculation/estimation methodology for the EU countries could be a strong tool in order to have more impact on policy level.

### 1.3 International cost estimation activities

Yuka Ujita (ILO) and Frank Pega (WHO) presented the “WHO/ILO joint estimates of the work-related burden of disease & injury (WHO/ILO Joint Estimates)”. WHO and ILO have in the past produced separate estimates of the work-related burden of disease and injury, using some different methods and covering some different occupational risk factors and/or health outcomes. WHO and ILO agreed in 2016 to develop the WHO/ILO Joint Estimates. For the first time, the two UN specialized agencies for health and labour will produce joint estimates on the impact of work on health.

The WHO/ILO Joint Estimates will be based on existing methods for estimating the work-related burden of disease and injury for selected pairs of occupational risk factors and health outcomes. It will expand these existing methods with those for several additional occupational risk factor-health outcomes pairs that are likely to account for a considerable disease burden, in adherence with the strict standards of WHO and/or ILO for producing health, safety and labour statistics and estimates.

WHO and ILO systematically selected additional, prioritized risk factor-health outcome pairs for systematic review and synthesis of evidence. For each of these pairs, systematic reviews are being carried out that will show if existing evidence suffices for WHO and ILO to proceed to estimation, and if evidence is found to suffice, that will support the estimation of the corresponding disease burden. WHO and ILO, with the support of key organizations and contribution of a large network of 200 individual experts from 35 countries, will finalize and publish the first cycle of the WHO/ILO Joint Estimates in 2020. A second estimation cycle is in the planning phase. WHO and ILO provided a comprehensive overview of the standard methods and the data sources used to produce the WHO/ILO Joint Estimates. They also briefed meeting participants about the WHO/ILO proposal to IAEG-SDG to add an indicator on mortality from work-related diseases from the WHO/ILO Joint Estimates to the SDG indicator system.

Jukka Takala, president of ICOH, shared his work on the “Continuous improvement of work-related burden estimations”. He presented new data on work-related health burden world-wide, which increased significantly from 2014 to 2017 regarding all main criteria, such as fatal cases from accidents and diseases, as well as non-fatal accidents. Costs in monetary terms have been calculated by multiplying the number of DALY's for each country and region (and category) by GDP/employed in the same country/ region. Costs in percentage of GDP have been obtained through dividing DALY (years) value for country/region by the maximum hypothetical number of gainfully productive years if no-one died, or had temporary or permanent disability. This was obtained through the number of years worked by those employed - or full employment number.

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<sup>5</sup> <http://piku.ttl.fi/#/form/section/0>

Rather than being really a loss of productivity we are estimating the magnitude of missed opportunity for higher output.

On the one hand this approach may be interpreted as an over-estimate, as DALY's cover losses caused by work also for those that are over retirement age. On the other hand, this approach represents a more conservative under-estimation, since several aspects are not properly covered, e.g. those permanently disabled with disability pension, unemployed for poor working capacity by past work, those outside the workforce, or those compelled to retire prematurely. In general work disability criteria is radically stricter than life disability estimation (based on YLD/DALY), these calculations are very different from those of workers' compensation systems.

At the end of his presentation, Mr Takala highlighted, that diseases, injuries and costs as such cannot be eradicated, but we can eliminate exposures leading to them, in particular, at places of work. He pleaded that we need more exposure information for all risks, and he mentioned the planned EU-OSHA exposure survey as a very useful activity in this regard.

## 1.4 Feedback from group discussions after the presentations

### 1.4.1 Group 1

Ideally, every country should do its own cost estimation because they know better the background of the data and how to interpret the national data sources. However, the drawback is that these results would not be comparable.

Therefore, there is scope to develop a joint European methodology that should be very transparent and simple. Rather than developing the most advanced and sophisticated methodology, the estimation should be easy to follow and have a broad social acceptance, so that every country could follow it. However, for smaller countries it could be in any case difficult to do a national estimation because they do not have a lot of experts and data on the topic and are not able to apply the same method in their study.

There is also a lot of scope in order to improve European statistics. Work-related accidents suffer from high under reporting in some countries, especially non-fatal accidents. Work-related disease statistics are not at all comparable, the officially recognized and compensated occupational diseases differ widely from estimations of work-related diseases based on the attributable fraction method.

There is a greater need to link research of the environmental topics (climate change, pollution, ..) to research in OSH. For environmental topics it is immediately clear that everyone is affected, e.g. regarding climate change. However, OSH also affects large parts of the population, but this is not sufficiently recognized in public awareness. The cost of non-OSH could be a way to highlight the impact of prevention to non-OSH policy makers and increase awareness about the distribution of costs in society.

### 1.4.2 Group 2

It is important to recognise that there are different estimation methodologies that are serving different objectives; it is not a question of being right or wrong, or one methodology being better than another. On the one hand there are more rigorous methodologies that follow high scientific standards, e.g. the GATHER criteria, such as the WHO/ILO approach. These approaches are important in order to defend their scientific reputation and provide comparability with other policy areas.

On the other hand it is vital to get a wider public attention or to brief a minister on the impact on OSH, in order to get prevention objectives higher on the political agenda. For this purpose, a simple and transparent methodology that all stakeholders accept despite limitations may be sufficient, such as presented with the Finnish cost estimation example. In this case it is more important to get the buy-in of key societal stakeholders, such as social partners, to support the estimates politically. Rather than presenting exact figures it should be highlighted what is the order magnitude for the societal burden and costs.

Further, it would be helpful for the discussions to first differentiate between the burden and its monetization. An exact as possible burden estimation is an essential first step for any cost estimation. Probably regarding the burden estimations, a consensus can be reached more easily between different experts and various estimation methodologies. For many policy strategies and public prevention approaches already a better picture of the number of cases and lost DALYs of work-related accidents and diseases would be very helpful, in order to target better the prevention efforts, e.g. regarding specific risks in specific sectors.

On the political agenda it was suggested to promote further the inclusion of work-related burden estimates in the UN Sustainable Development Goals (SDG 8, Decent Work and Economic Growth), which are being discussed at the moment. An explicit inclusion of such indicator could give strong support of occupational safety and health on the global policy agenda.

At European level a new EU-Commission will soon be established and President-elect Ursula von der Leyen included a reference to the appropriate SDG in the mission letter for each commissioner taking into account their respective portfolio. This would be a good opportunity to brief the Commissioner-designate for Jobs, Mr Nicolas Schmit, about the new work-related burden estimates and their policy significance regarding OSH.

### **1.4.3 Group 3**

Generally the findings of the new EU-OSHA report “The value of occupational safety and health and the societal costs of work-related injuries and diseases” were found very useful for the member states. However, it was felt that this is only a step, although a quite large one, on the longer journey to ever better estimates of work-related burden and cost. The rich information of the report could be used for further analysis in order to find out, where the country differences really come from, e.g. higher per case costs in some countries could be a hint for longer return to work times after accidents or diseases. Therefore, a more detailed secondary analyses of the report would be needed, including the countries who did estimations following this model, such as Austria.

Further, it was regarded important to communicate cost estimation findings to policy makers and politicians. We should aim to influence the ministers and to get the discussion into the mass media, like it was achieved e.g. in Sweden. In order to achieve this, the result has to be expressed in a simple way, without any methodical discussions. Ministers, media and wider public are not interested in methodologies. Therefore, it would be useful to have one joint, simple methodology with a broad social consensus.

As possible future task for EU-OSHA it was proposed a better European research coordination for burden and cost estimations, e.g. by developing a European standard research methodology. EU-OSHA should act as a European platform in order to share national research results and make them comparable. Then the different national estimation results should be followed up with each country individually to draw conclusions for national policy making.

The need for better and more comparable data was highlighted, especially regarding work-related diseases. Therefore, it was proposed to make better use of labour force surveys, because they could deliver at least comparable survey data in Europe. In this regard the upcoming EU-OSHA exposure survey on carcinogens was mentioned as a good example here. From EU-level standardised reporting guidelines or even directives for occupational disease reporting would be useful.

## 1.5 Summary/conclusions (also based on group discussion)

The experts discussed different aspects of the cost estimation approaches presented. It was appreciated that for the first time such an in-depth study of comparing costs of five different countries was undertaken, especially the bottom-up model was mentioned to allow for more specific conclusions for policy making. The top-down model presented different ways of allocating monetary values to DALYs and it was discussed if a monetary valuation of DALYs was at all possible or necessary. On the one hand DALY-monetisations are used widely in research and policy impact assessments, on the other hand such an approach was suspected to be too simplistic, as it can be assumed that there are different DALY values for different diseases. Further, different illnesses leading to a DALY can have very different impacts on productivity, e.g. a person in a wheelchair can be 100% productive with adjusted working conditions, although this would be recognised negatively in the DALY coefficient. However, the top-down model can help to give a rough overview about the magnitude and impact of work-related diseases and accidents. The general usefulness of monetisation of health burden was also questioned, as policy makers can already draw useful conclusions from the pure burden data itself. However, at a higher level different policy areas compete for public attention and resources, e.g. if governments have to allocate their budgets for different purposes. Therefore, many national governments and the EU-Commission are requesting nowadays monetary impact assessments of any new regulation proposed. In this regard the research projects regarding OSH estimations can support this political decision-making process, even if monetisations seem sometimes difficult or even impossible. OSH is a basic human right, however, in today's world, showing the cost of lost labour input has an impact on prevention. Enterprises cannot see the total cost of poor working conditions in their bookkeeping, it requires additional calculations to make the business and societal costs of low OSH standards transparent.

Communication of the cost estimation findings to politicians and policy makers was regarded as a further key element. In order to convince ministers and reach the mass media, the messages have to be very clear and simplified. In the end a broad social consensus on the cost of non-OSH is more important than any academic discussions. It could be beneficial to better link OSH cost estimations with research of the environmental topics (climate change, pollution), as environmental topics enjoy much higher public attention.

A possible role for EU-OSHA could be to present the different research estimates with their respective objectives and make them available to a wider public, and thus increase the awareness of the true societal costs of non-OSH. It was also regarded as necessary to promote further the business case of OSH at enterprise level and highlight the positive impact of OSH for productivity.

In order to raise public attention and impact on the political agenda it was suggested to promote further the inclusion of work-related burden of disease and injury estimates in the indicator system for monitoring progress along the UN Sustainable Development Goals (including SDG 8, Decent Work and Economic Growth). At European Commission level President-elect Ursula von der Leyen included a reference to the appropriate SDG in the mission letter for each commissioner taking into account their respective portfolio, including the Commissioner-designate for Jobs, Mr Nicolas Schmit. The new Commission should be briefed appropriately about the new official work-related burden of disease and injury estimates and their policy significance regarding OSH.