

Monitoring occupational safety and health in the European Union Combining data systems

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1. Introduction

As a part of an Agency project about existing monitoring systems of occupational safety and health in the EU Member States, the Agency jointly organised with the Danish EU Presidency a workshop on occupational safety and health (OSH) monitoring systems, in Bilbao (⁽¹⁾).

(¹) Monitoring occupational safety and health in the European Union, a workshop organised in Bilbao (30 September and 1 October 2002) by the European Agency for Safety and Health at Work and the Danish Presidency of the European Union.

The workshop was also a follow-up to Agency projects on the state of occupational safety and health in the EU Member States (⁽²⁾) and the EFTA countries (⁽³⁾). The aim of the workshop was to present an overview of OSH monitoring systems in place in the EU Member States and of EU systems and to identify needs and options for future common approaches to monitoring occupational safety and health.

The complete proceedings of the workshop, including the presentations, have been published on the Agency's website (⁽⁴⁾).

2. Results of the Agency's 2002 OSH monitoring project

The workshop started with the presentation of an Agency study on national OSH monitoring systems (⁽⁵⁾). The study included a general description of 23 national systems, including a statistical analysis of the parameters measured.

The national systems chosen for inclusion in the report demonstrate, and represent, 'the variety' available in the European Union as regards aim, use, content and methodology.

They include:

- monitoring of outcomes such as ill health, accidents and occupational diseases,
- describing the working environment, including exposure to defined risks, working conditions, working procedures used, and employment status,
- keeping a record of the OSH situation at company level,
- giving an account of the infrastructure at national level for the implementation of OSH by enterprises, preventive services and authorities.

The systems can be categorised by the method applied or by data source into:

- labour force and worker surveys,
- databases,
- registers of accidents, diseases and/or absenteeism,
- policy-directed systems, and
- intervention- and OSH-management-oriented systems.

The selection should also include systems from a wide range of Member States.

(⁽²⁾) 'The state of occupational safety and health in the EU Member States — A pilot study' is available for download from the Internet (<http://agency.osha.eu.int/publications/reports/405/en/index.htm>).

(⁽³⁾) 'The state of occupational safety and health in the EFTA countries' is available for download from the Internet (http://agency.osha.eu.int/publications/reports/403/en/report_efta.pdf).

(⁽⁴⁾) <http://europe.osha.eu.int/systems/osm/proceedings/index.stm>

(⁽⁵⁾) 'A review and analysis of a selection of OSH monitoring systems' is available for download from the Internet (<http://agency.osha.eu.int/publications/reports/406/en/index.htm>).

Table 1: Systems included in the Agency project

Type of system	Country	Name of the system (in English)
Worker surveys	1. France	Working conditions survey (Enquête nationale sur les conditions de travail)
	2. France	Medical monitoring survey of professional risks (SUMER)
	3. Spain	National working conditions survey (ENCT)
	4. Sweden	The work environment statistics/survey
Exposure database	5. Germany	Measurement system of workplace exposures of the 'Berufsgenossenschaften'
Registers of accidents, diseases, and/or ill health	6. France	National network for occupational accidents
	7. Italy	Data system on work, accidents, diseases, absenteeism, work disability and inspections (of INAIL)
	8. Spain	Occupational accidents and diseases statistics
	9. Sweden	The work injury information system (ISA)
	10. UK	Combined use of 'Self-reported work related illness survey' (SWI) and 'Occupational disease intelligence network' (ODIN)
	11. UK	Combined use of 'Reporting of injuries, diseases and dangerous occurrences regulations 1995' (RIDDOR) and 'Labour force survey' (LFS)
	12. Finland 13. Denmark	Occupation and cancer register (combined with census data) The occupational hospitalisation register
Register of absenteeism	14. Finland	Sickness allowance register
Multi-source and policy directed systems	15. Denmark	Surveillance of the progress in the action programme for a clean working environment 2005
	16. Netherlands	Yearly OSH-balance report (Arbobalans; a compilation of several data sources on OSH)
	17. Germany	Yearly 'Status report' on health and safety at work (based on statistical data and special survey reports)
	18. UK	The cost to Britain of workplace accidents and work-related ill health in 1995/96
Intervention- and OSH-management related systems	19. Belgium	Safety index of companies
	20. Ireland 21. Ireland	Promotion and campaign activities of the Health and Safety Authority System for accidents and field enforcement, combined with national household survey data
	22. Netherlands	Yearly inspection/OSH monitor (Arbomonitor)
	23. Norway	Register for enterprises and working accidents



The systems were described using a questionnaire that addresses basic information (name, 'owner', basic documents), content (work environment, health and safety, OSH management, employee and company descriptions), methodology (data gathering, processing, publication, reliability of the data, etc.), internal and external use/aim, costs, evaluation and possible future developments of the system.

Statistical analysis of parameters included in the systems results in a grouping of these systems into three clusters that seem to satisfy different information needs, the characteristics of which are summarised in Table 2.

Systems not classifiable into one of these groups include mainly multi-source systems and labour inspection systems. The number of parameters covered by a system is also very variable.

The statistical analysis given in Table 2 is based on a quantitative approach, i.e. the fact that the parameter is included in the system, but does not take account of qualitative aspects such as the degree of accuracy and the level of detail with which the parameter is described in the system.

Some of the aims of OSH monitoring as reported by national experts for the Agency survey are:

- to develop knowledge on occupational health and safety in order to identify risks and risk groups, trends in OSH and changes over the years and awareness of and compliance with legal requirements;
- to support prevention, to develop preventive policies and to identify preventive structures;
- to set priorities of activities and to support labour inspections, for example in determining priorities in inspection;
- to evaluate or control the effect or the efficiency of actions or measures, to monitor OSH management, interventions, outcomes, the progress of actions and costs of absenteeism;
- to make benchmarking possible, for example by comparing with other European countries;
- to provide a basis for discussions between social partners, and to present the yearly development of OSH to social

Table 2: Main characteristics of the three groups of OSH monitoring systems

Group 1 Accidents, ill health, absenteeism — multi-source information	Group 2 Work and working conditions — sample surveys	Group 3 Safety, substances, OSH services, policy- directed, company and workplace observations
Content		
Work activity, working hours and employment status	All work characteristics	Safety situation, work activity, dangerous substances
Accidents, ill health, absenteeism, work disability, cost of occupational accidents and diseases	Accidents, ill-health	OSH experts, OSH coverage, OSH interventions
Employee as well as company characteristics	Employee as well as company characteristics	Company characteristics, but no employee characteristics
Methodology		
Multi-source (surveys, observations, registers), population data, ongoing data gathering, some under-reporting	Only questionnaires, sample data, data gathering every two years or less, no under-reporting	Mainly workplace observations, sample data, ongoing data gathering, some under-reporting
Use of data		
Used for cost–benefit analysis, not often used for the evaluation of policies, actions or campaigns	Not used for cost–benefit analysis, seldom used for the evaluation of policies, actions or campaigns	Not used for cost–benefit analysis, often used for the evaluation of policies, actions or campaigns

partners, the media and the larger public, and to provide a basis for actions of occupational physicians;

- to make possible additional studies and research — often by external institutes — on specific topics;
- to report to European institutions;
- to demonstrate the costs of OSH;
- to make compensation possible.

3. Findings of the presentations and round table discussions

Examples of national OSH monitoring systems, currently applied EU approaches and the current ILO initiatives were presented and discussed at the workshop. This section is based on the presentations of speakers from different Member States and the comments from the workshop participants, as well as the results of round table discussions.

3.1. The European context — Summary of a presentation by Angel Fuente-Martin, European Commission ⁽⁶⁾

'We should not lose too much time to seek perfection and find a unique system of indicators to monitor OSH. As not everything can be measured in the same way, it may be more useful to be pragmatic and make use of several systems addressing the specific needs and adaptable to the changing world of work.'

Angel Fuente-Martin, European Commission

The new Community strategy on OSH ⁽⁷⁾ foresees a series of actions to be taken at different levels. The strategy and

Council resolution ⁽⁸⁾ indicate that quantified measurable objectives have to be fixed. Consequently, indicators have to be developed for measuring the evolution of these objectives and for evaluating the progress of the strategy itself.



The Commission will have to present progress linked to the strategy in its annual reports. It is therefore necessary to have and make use of appropriate tools, related to statistical elements and elements from studies and reports. The sources should be of national origin, using harmonised methods such as ESAW ⁽⁹⁾, EODS ⁽¹⁰⁾ and the ad hoc modules of the EU labour force survey or the socioeconomic indicators developed by the Employment DG and Eurostat. Other sources of information include the Dublin Foundation's working conditions survey or concepts developed by the ILO.

Tools should be elaborated in such a way that the results are representative, reliable, easily understandable and so that they allow for an analysis of trends and developments of risks and preventive actions to be taken.

⁽⁶⁾ Angel Fuente-Martin, 'Monitoring of OSH, a key point to improve health and safety at work — A new strategy 2002–06', European Commission.

⁽⁷⁾ 'Adapting to change in work and society: a new Community strategy on health and safety at work 2002–06', COM(2002) 118 final, communication from the Commission of 11 March 2002.

⁽⁸⁾ Council resolution of 3 June 2002 on a new Community strategy on health and safety at work (2002–06) (OJ C 161, 5.7.2002, pp. 1–4).

⁽⁹⁾ European statistics on accidents at work.

⁽¹⁰⁾ European occupational diseases statistics.

This allows for consolidation of prevention policies based on previous results and for the determination of new objectives. A follow-up is required that is adapted to newly identified needs. It can be said that this is a dynamic and interactive process. The 'risk observatory' to be set up by the Agency is one of the systems that should allow for the anticipation of new risks or the extension of traditional risks and should help to fight and minimise these risks. This will also rely on the collection of information and good practices at enterprise and sector levels. The Agency project on OSH monitoring is a good first step towards this aim.

What is an effective OSH monitoring system?

- An OSH monitoring system should include quantitative as well as qualitative data and enable action (e.g. setting priorities, choosing risk groups, risk factors, sectors, setting quantitative targets for outcome data such as accidents and diseases). Occupational safety and health monitoring should support knowledge-based administrative decisions on legislation, law enforcement, expenditure and research, etc. OSH data, especially EU level data, are needed to establish levels and trends in exposures and effects, to enable the setting of priorities, to allow for correction to activities, to identify emerging risks, and to monitor changes and progress against pre-set targets.
- Present national OSH monitoring systems measuring work environment factors and OSH outcomes should address key issues raised in the new Community strategy. As shown in the Agency's project, some enable analysis of data with a differentiation by gender, age of workers, size of enterprise or which include employment status. They thus address key priorities of the strategy regarding gender issues, young and ageing workers, or OSH in small and medium-sized enterprises, in quantitative measurement.

3.2. Trends in OSH monitoring

3.2.1. Validation, quality improvement and harmonisation of the 'traditional data'

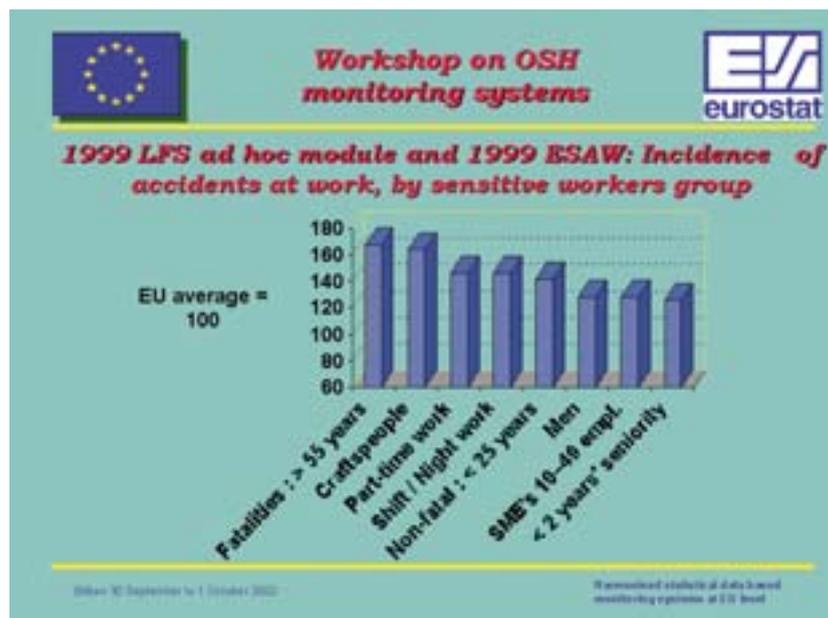
'The given sources are complementary. No source provides all needed information. The aim is not to have the most perfect data, but to have as complete an image as possible by using all the data available.'

Didier Dupré, Eurostat

In order to interpret data and make them useful for priority setting, data are validated by linking them to the context at the workplaces. Presentations on Eurostat activities on occupational accidents and diseases ⁽¹⁾ and on national systems have demonstrated a tendency to validate data and elucidate causes of outcomes by including them systematically in data collection.

Eurostat has successfully promoted developments in the harmonisation of data on accidents and is currently developing similar harmonisation of data on occupational diseases. The inclusion of data about the causes of occupational accidents, in line with Eurostat's methodological improvements, which, as shown in the Agency's report, are being implemented by many Member States at the moment, will improve considerably the quality of data on occupational accidents and allow for consequential measures. As a next step, data on the costs of 'model accidents' shall be included in the statistical system to link accident data to cost factors.

OSH monitoring consists of risk monitoring and health monitoring. Risk monitoring may be measuring exposures, registering hazardous technologies, or reporting on the level of technical standardisation or the level of legislation and law enforcement. Health monitoring could be carried out by



⁽¹⁾ Didier Dupré, 'Harmonised data based monitoring systems at EU level — Situation and evolutions', Eurostat.

using professional insurance data, using health insurance data, analysing population register data or collecting health surveillance data.

The work-related ill health which is measured by surveys, social security registers and other sources depends upon who is reporting it and attributing it to work.

As shown in the presentations of the **French and Italian systems** ⁽¹²⁾ **recording occupational diseases**, one explanation for the discrepancy between the estimates for occupational diseases and the insurers' figures is the medical profession's lack of awareness of possible links between a professional activity and an illness. This difficulty increases in the case of cancer, where the symptoms appear later when the person concerned is, very often, no longer exposed to the risk.

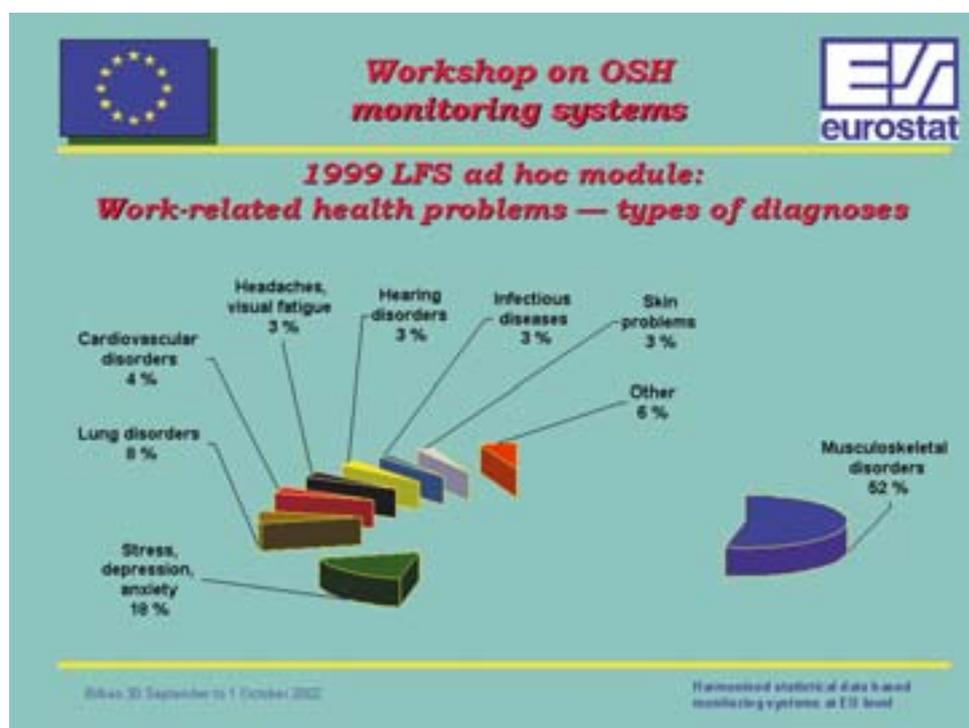
According to the Institut de veille sanitaire (InVS) (Institute for Health Monitoring — a public body of scientific expertise), at least 4 % of all cases of cancer are occupational in origin (or 10 000 new cases of some 250 000 new cases which occur in France each year). These figures are a far cry from the number of recognised cases of occupational cancer (around 900 in 1999).

Similarly, there are few problems in analysing data regarding information from compensation pathologies that Italian legislation considers to be strictly linked to certain jobs ⁽¹³⁾, but major difficulties exist for those work-related diseases that can also be of non-professional origin. Like SENSOR in the USA, or SWORD in the UK, some local Italian surveillance systems (e.g. in Piedmont and Brescia) of work-related and occupational diseases have been helpful in discovering cases

Table 3: Under-estimation of work-related illnesses (1): cancers
Number of cases of occupational cancer recognised in 2000 by insurers and an estimate of the number of attributable cases for male/workers

Type of cancer	Products concerned	Number of cases (insurers' figures) 2000	Estimated number of cases (Institut de veille sanitaire, France)
Leukaemia	Benzene, ionising radiation	27	78–288
Bronchopulmonary cancer	Ionising radiation, chromic acid, coal tar, arsenic, nickel, cobalt and tungsten, bischloromethylether, Asbestos	384	1 309–2 619
Mesothelioma	Asbestos	287	375–420
Cancer of the bladder	Aromatic amines, coal tar	9	437–770
Cancer of the ethmoid and the facial sinuses	Nickel, wood dust	60	42–70

(1) Maud Vallat-Taddei.



⁽¹²⁾ Francesco Violante, 'Reflections on the annual report from the Italian National Institute of Insurance Against Occupational Accidents'. Maud Vallat-Taddei, 'The importance of an information system on occupational diseases independent of insurance institutions'.

⁽¹³⁾ Francesco Violante.

that were not reported to the Italian National Institute for Labour (INAIL) by physicians. The medical profession's underestimate of the occupational origin of diseases is not the only reason for the discrepancy observed. There is also an under-declaration of occupational diseases by occupational physicians and an under-recognition by the insurance institutions.

The Commission strategy states that 'data must be more precise, more comparable, have fuller coverage and be available earlier ... the Commission and the Member States will have to step up ongoing work on the harmonisation of occupational accident and illness statistics'. The statistics on occupational diseases at EU level are for this reason, amongst others, also subject to harmonisation by means of an EU-wide data collection of a common data set (e.g. a given codification of diseases according to health outcomes; use of a common list of eliciting factors for diseases) combined with a comparative study of Member States' systems and national divergences.

Candidate countries are also being included in the harmonisation of Eurostat data on occupational accidents and diseases.

Eurostat's labour force survey (LFS) provides EU-wide information on the population, households, employment (rates, self-employment, employees, temporary and part-time employment, working time, etc.), unemployment and inactivity. Eurostat's ad hoc module of the 1999 LFS on accidents at work and occupational illnesses generated additional information on diseases, disabilities, other physical and psychological problems and accidental injuries at work.

The **Dublin Foundation's survey on working conditions** has also proven to be a very valuable source of information at the European level to identify trends in risk factors at the workplace. From data provided by the comparative study, a slightly increasing trend can be seen in exposure to traditional risk factors (e.g. noise). This should be further investigated, including the statistical significance of the findings. Possible explanations could be a rising awareness of workers as well as worsening working conditions due to changing employment status.



3.2.2. Combining and integrating several data sources

'To support the "outcome" data on injuries and ill health, supplementary approaches should be explored, for example collecting data on economic, social and cultural factors'

HSE statistical note on progress measurement

The general trend in recent monitoring activities of Member States is to combine several data sources in order to have a more complete picture of a given situation (i.e. important risk factors, groups at risk, uprising issues), identify information gaps and be able to take decisions on future measures to apply. Such approaches effectively recognise that the available data on health outcomes, by themselves, are not yet sufficiently robust for the purpose of measuring progress against targets: other indicators will need to be developed to supplement them. These must be embedded in a model, to compile a set of 'surveillance indicators' for occupational health.

As an example, in **Germany** ⁽¹⁴⁾, OSH monitoring is carried out according to two legal principles of collecting and processing personal data: self-determination (i.e. a person grants or denies consent) and predetermination (i.e. for administrative exploitation, the purpose of data collection must correspond to the purpose of data use).

Data sources in Germany are:

- summary reports of the professional insurance companies (number and costs of work accidents and occupational diseases);
- analysis report of a 10 % sample of commuting and work accidents (case facts, gender, company size, industry);
- summary report of occupational diseases (diagnosis, gender, industry, geographical region);
- early retirement statistics (cause of retirement, cost);
- health insurance report on absenteeism (diagnosis);
- chemical exposure database (non-random sample);
- OSH authorities' report (advisory measures, legal actions taken, surveillance personnel on duty).

Data from all these sources are compiled into a yearly government summary report.

In the 'Revitalising health and safety' ⁽¹⁵⁾ strategy statement, the **United Kingdom** Government and Health and Safety Commission set three national targets for improving health and safety performance by the year 2010:

- to reduce by 30 % the number of working days lost per 100 000 workers from work-related injury and ill health;
- to reduce by 20 % the incidence rate of cases of work-related ill health;
- to reduce by 10 % the incidence rate of fatalities and major injuries.

It also aimed to achieve half the improvement under each target by 2004. The targets relating to ill health also featured in the 'Securing health together' ⁽¹⁶⁾ strategy.

The Health and Safety Executive (HSE) set out a technical approach to monitoring progress against these targets in a statistical note on progress measurement ⁽¹⁷⁾ published in June 2001. This recognised that the second target, for work-related ill-health incidence, presents particular challenges for progress measurement. One reason for this is that there are several available data sources, each of which has strengths and weaknesses and each of which may give a different picture of trends.

This system ⁽¹⁸⁾, attempts to combine several data sources, linked to self-reporting surveys, diagnosis by doctors, recognition by employers, and compensation. To support the 'outcome' data on injuries and ill health, supplementary approaches should be explored, for example:

⁽¹⁴⁾ Robert Säverin, 'Status report on occupational safety and health'.

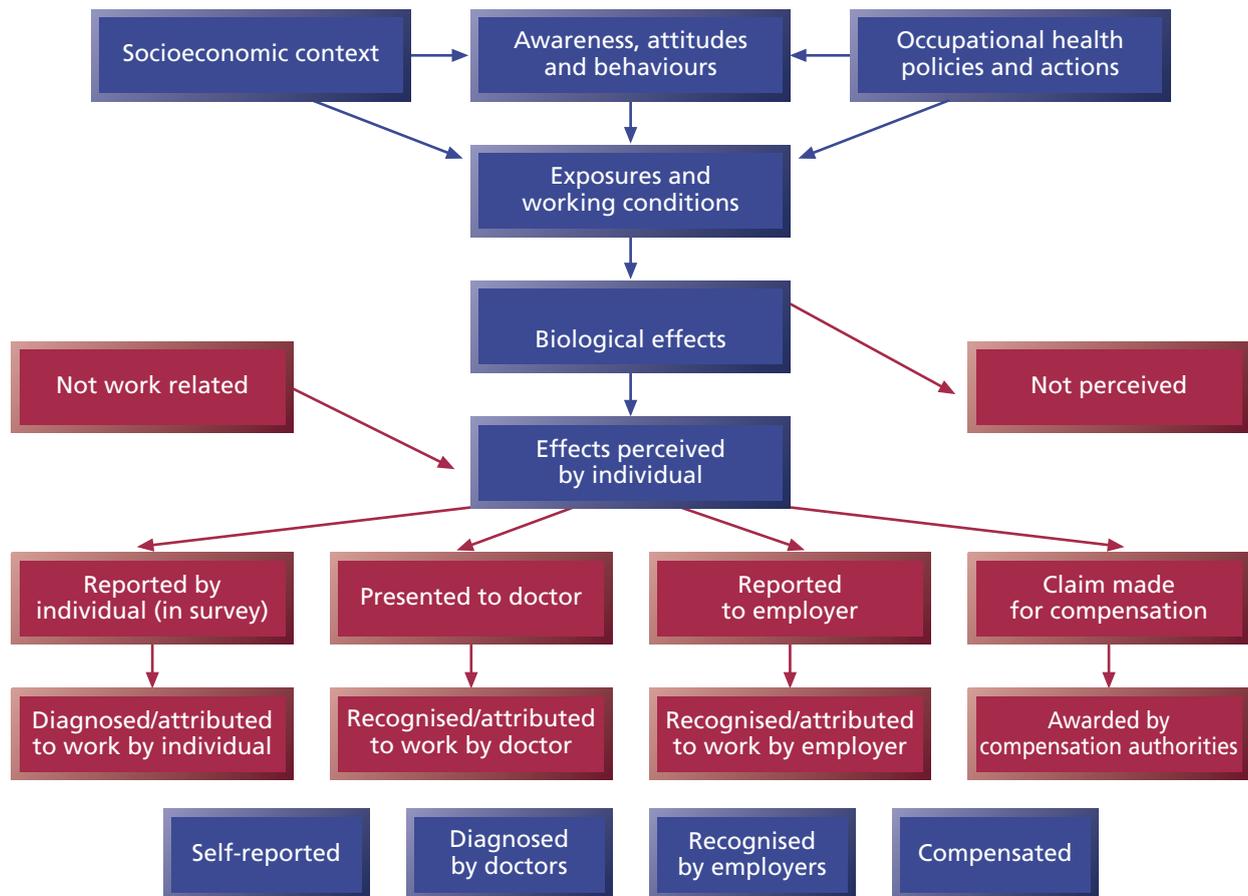
⁽¹⁵⁾ See http://www.hse.gov.uk/revitalising/what_is/index.htm

⁽¹⁶⁾ See http://www.ohstrategy.net/strategy/strat_intro.shtml

⁽¹⁷⁾ See <http://www.hse.gov.uk/statistics/statnote.pdf>.

⁽¹⁸⁾ Alan Spence, 'Integrating illness data from different sources (including self-reported work-related illness surveys and the occupational disease intelligence network) to measure progress against targets'.

Figure 1: A national example — Integrating illness data from different sources in the UK — Work-related ill-health causation, reporting and attribution



- the socioeconomic context (e.g. contracting strategies in affected industries),
- occupational health policies and actions (e.g. HSE inspection activities),
- exposures and working conditions (e.g. percentage of workforce exposed),
- awareness, attitudes and behaviour (e.g. culture towards relevant controls).

Figure 1 sketches out such a model for work-related ill health.

The methodology draws on the methods employed in other areas of statistics, especially national accounts, used for many years to build up estimates of national income from a variety of sources, and labour accounts, developed more recently to apply a similar framework to labour market statistics. For national income and labour market statistics, the models are well established and lead to fairly simple identity relationships (e.g. total supply = total demand).

The model needs to be interpreted in the context of the different sources of information that are actually available on the incidence of occupational or work-related ill health in the United Kingdom. These are of five main types:

- household surveys of self-reported work-related illness (SWI), linked to the labour force survey, run in 1990, 1995, 1998/99 and 2000/01, asking about 'any illness ... which was caused or made worse by your work';
- voluntary reporting of occupational diseases by specialist doctors (occupational physicians and specialists in respiratory, skin, hearing, musculoskeletal,

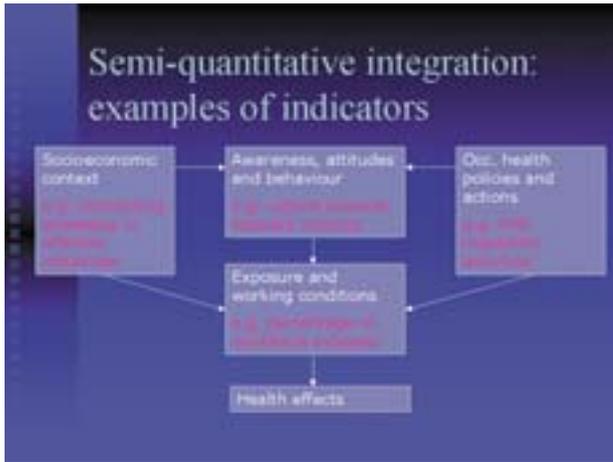
stress/psychological disorders and infections) in the 'Occupational disease intelligence network' (ODIN, and its successor from March 2002, THOR); it also includes SWORD and EPIDERM; now 'The health and occupation reporting' (THOR) network;

- new cases of assessed disablement compensated under the Department for Work and Pensions' Industrial Injuries Scheme (IIS); a limited list of recognised diseases;
- statutory reports under the HSE's 'Reporting of injuries, diseases and dangerous occurrences regulations' (Riddor), an obligation for employers, but much under-reported;
- deaths from mesothelioma and other occupational lung diseases recorded on death certificates (DCs).

The basis for the semiquantitative approach is the recognition that the aim of the exercise is simply 'to produce an overall judgement about progress against this (ill-health incidence) target' — in other words an assessment of whether the incidence of work-related ill health has indeed fallen by 20 % by 2009/10 (or by 10 % by 2004/05). A set of fully integrated estimates is not necessary or perhaps even desirable in order to achieve this.

The factors mentioned above are the sort of factors covered by some of the broader 'OSH monitoring systems' which have been described at the workshop.

Such approaches effectively recognise that the available data on health outcomes, by themselves, are not yet sufficiently robust for the purpose of measuring progress against targets: other indicators must be developed to supplement them.



These must be embedded in a model, such as that proposed as part of the World Health Organisation (WHO) initiative to compile a set of 'surveillance indicators' for occupational health⁽¹⁹⁾.

The **ILO national indicators and OSH country** profiles should be seen as part of an integrated approach towards better occupational safety and health in both industrialised and developing countries, whose priorities would probably be quite different.

Problem Occupational injuries and diseases

- 360 000 fatalities
- 270 million accidents
- 160 million occupational diseases
- 4 % of gross national product is lost

ILO estimates of work-related deaths in the year 2000: 1.9 - 2.3 million

They should become an instrument for stimulating actions for improvement on the side of the 'profiled' country and a tool for own follow-up. They should **allow for benchmarking within the country over time rather than across countries**. Ideally they should result in national OSH programmes. Hence, the indicators applied should not be too complicated but still provide sufficient insight into the country's state of OSH, in order to detect strong and weak points and to formulate priorities for action and for follow-up. Indicators applied include basic data on all the parameters that may affect the sound management of OSH both at the national and enterprise levels, including available legislative framework, enforcement and implementation mechanisms and infrastructures, workforce distribution, human and financial resources devoted to OSH, OSH initiatives at the enterprise level, and level of protection, etc. Ideally, the profile should also provide practical information on ongoing activities at country level. The ILO integrated approach collects information on:

- the OSH legislative framework;

- the national policy and review mechanism;
- coordination and collaboration, including collective bargaining;
- OSH technical standards, guidelines and management systems;
- OSH system implementation means and tools;
- statistics of occupational accidents and diseases;
- policies and programmes of employers' and workers' organisations;
- regular and ongoing activities related to OSH;
- general data;
- other relevant information;
- elements for input to the situation analysis (preliminary expert opinion).

SafeWork – Priorities in industrialised countries

- Stress
- Ageing workforce
- Right to know
- Chemicals
- Ergonomics
- Management and safety culture
- Occupational health services
- New technologies

SafeWork — Priorities in developing countries

- Agriculture
- Other dangerous occupations
- Major accidents and fires
- Safety, housekeeping and productivity
- Silicosis — work-related diseases
- Vulnerable groups, child workers
- Transfer of technology

The survey methodology has also been tested in Azerbaijan, Uzbekistan, Russia, Costa Rica, Mexico and China, with the assistance of regional ILO experts.

A first publication of results was presented at the workshop⁽²⁰⁾.

The general idea of developing a work and health monitoring system per country should be evaluated as very positive in a European context.

The results of the Agency 2002 study show that there are almost no monitoring systems available that include all these 'core indicators'. The use of more than one monitoring system per country seems to be needed to gather the information for these 'Work and health country profile

⁽¹⁹⁾ See 'Work and health country profiles, 2001', 'Work and health country profiles of 22 European countries, 2002', Finnish Institute of Occupational Health, People and Work, *Research Report*, 44 and 52.

⁽²⁰⁾ Brigitte Froneberg, 'SafeWork Infocus programme — Update on monitoring of occupational safety and health data and development of national indicators and country profiles', ILO.

reports'. The Agency study comes to the conclusion that multi-source reports prepared yearly in Germany and the Netherlands (the status report and OSH balance report) have much in common with the 'Work and health country profile reports' advocated by the FIOH and the WHO.

3.2.3. Describing the situation at enterprise level

'Up to now, monitoring of OSH has been very much linked to traditional indicators, such as accidents and diseases. We should address problems we are facing at workplaces today. Stress, impairments to well-being and harassment are difficult to monitor in the technical sense. We need to look at the prevention culture and not only monitor effects such as depression.'

Eric Jannerfeldt, UNICE

Many Member States have set their focus on monitoring the level of prevention in enterprises. Labour inspection and related authorities have developed a series of instruments for assessing the OSH situation, management level and training issues at company level.

This includes systems that rate the OSH level in an enterprise by the attribution of a numerical code (as in **the Belgian** example of a 'safety index'). The SI, which is an element of a ranking system used for setting inspection priorities, is calculated on the basis of the scores given by the labour inspector to 20 features during his company visit. The maximum value a company can obtain is 100. The 20 features cover relevant aspects of Belgian safety legislation: 15 are about regulations and the other 5 concern the capacity of resourcefulness of the company. For each feature, the score can vary from 0 to 4. Scores of 0 and 1 correspond to serious violations of the prescriptions for safety situations, which the inspectorate wants to see disappear from the companies. A score of 2 is given when the regulation is observed for that feature. Scores of 3 and 4 correspond to safety situations that the inspectorate would like to find in all companies.

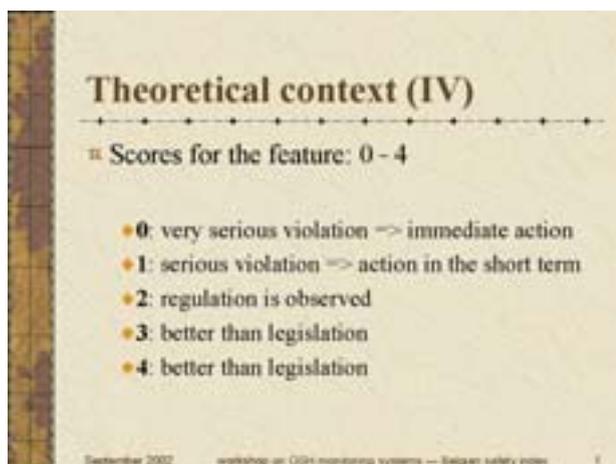


Figure 2: The Belgian safety index rating system

The gathering of data is a continuous process of sampling over the whole of the country. There are no under-reporting problems. The system mainly covers safety aspects, at the moment, but other indicators can easily be added (e.g. on health, ergonomics and psychosocial aspects). Each situation is defined in advance and concretised by a precise question or description. The list of features and the defined safety situations have been agreed upon by all inspectors.

As found in the Agency analysis of national systems, particular OSH management indicators (the number of OSH experts in companies or in preventive services, activities of

services, OSH coverage, inspections, etc.) are gathered in some worker surveys (Spain, Sweden) and labour inspection registers (Belgium, Ireland, the Netherlands and Norway). The Danish approach uses interviews validated by corresponding workplace interventions.

The **Danish 'Surveillance of progress in action'** ⁽²¹⁾ programme combines data from data sources on health issues (accidents, diseases), exposure data (surveys of working conditions) with results of studies on preventive activities in companies and data from administrative systems on activities, campaigns and inspections.

In 1995, the Danish Government introduced an action programme for reducing risks and strain at work in Denmark for seven selected topics.

The topics are:

- the reduction or avoidance of:
 - accidents at work,
 - exposure to cancerogenic and neurotoxic substances,
 - heavy lifting and repetitive work,
 - psychosocial stressors,
 - indoor climate problems,
 - noise, and
- improving the working conditions for children and young people.

The action programme was set up in cooperation with the social partners to facilitate long-term priority setting and involves all levels of personnel, from the top administration to the employee on the shop floor.

One of the conditions of the action programme was the development of a model for monitoring its effects and progress. An investigation of the existing data sources was carried out, with special focus on indicators on:

- health,
- exposure,
- preventive activities.

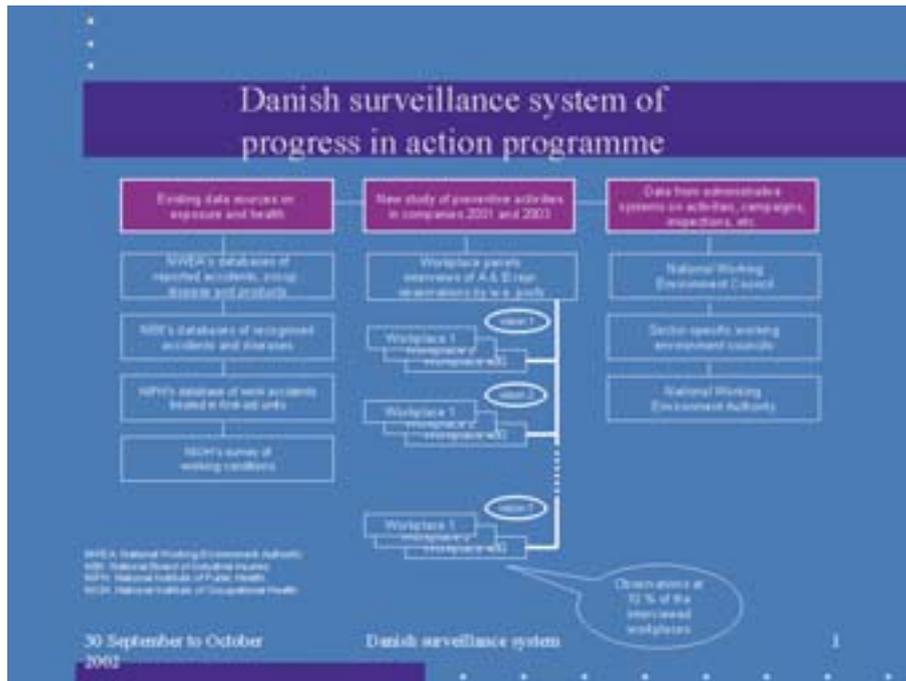
The investigation showed that data on health and exposure already exist for the main part of the seven selected topics. It also showed that there were very few data on preventive activities in companies and only part data on activities carried out by the working environment professionals.

The study of preventive activities in companies, which is carried out by several institutions, is based on telephone interviews with around 3 000 companies. About 10 % of these are visited by working environment professionals in order to validate the results from the interviews. There are seven topic-specific sub-studies (e.g. how the psychosocial dimension of the working environment is handled). Each sub-study is made using a specific panel for each type of workplace. In addition to topic-specific questions, each panel is asked a number of questions aiming at general preventive activities at the workplace level. The workplaces in the seven panels are picked within certain industrial sectors (i.e. those sectors where existing indicators have shown the problems in focus occur most frequently). Each workplace is represented by a manager and a safety representative, to get as close to an authentic picture as possible and to get some idea of a possible discrepancy between the two parties.

The study provides information, for example, on whether or not the companies:

- have completed a workplace assessment;
- have completed the required education for safety representatives;
- are organised in a satisfactory manner.

⁽²¹⁾ Trine Fønnesbæk Rasmussen & Elsa Bach, 'Surveillance of progress in Action programme for a clean working environment 2005' Working environment authority, Denmark.



The figures show that the branches differ, and this information can be used in setting priorities.

3.2.4. Describing the existing infrastructure and resources for the implementation of occupational safety and health

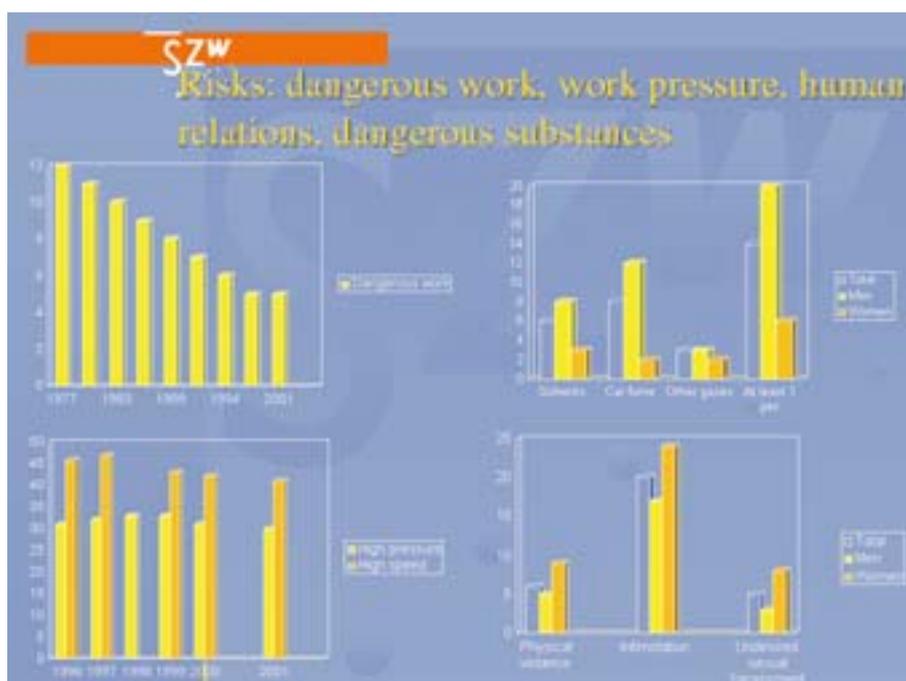
'There is no independent inspection of enterprises at EU level. We should therefore try to measure and improve the preventive effects of measures and consider how things develop at Member State level, taking into account the changing composition of the workforce and making better use of existing data in a purpose-oriented observation.'

Bernhard Jansen, European Commission

As an example, **the Netherlands' Arbobalans** ⁽²²⁾ has developed from information on a few risks to a comprehensive overview of OSH, relating to risk, effects and preventive measures.

It includes data from several sources, including data on preventive culture at enterprise level (e.g. availability in a company of a risk assessment and an action plan or investment by companies in preventive services) and concerning organisational issues of the implementation of OSH in national systems, such as:

- OSH issues in collective labour agreements,
- tripartite sector agreements,
- requests for tax facilities in OSH investment,



⁽²²⁾ Martin den Held, 'The Arbobalans: developments in risks, effects and preventive capacity'.

- the development of the capacity of labour inspectorates, and
- the coverage and number of OSH experts at enterprise level.

SZW
Social partners: OSH issues in collective labour agreements

	Number of agreements	Employees	Percentage of workforce
1997	27	750 000	16
1998	43	1 961 000	41
1999	61	3 217 000	68
2000	84	3 542 000	76
2001	87	3 749 000	78

4. Conclusions



The results of the workshop reveal a wide variety of approaches to monitoring occupational safety and health in the European Union. It has become a very dynamic area and a number of new models and strategies have emerged. The overview of the systems has shown that no single data source can provide a complete and adequate description of occupational safety and health.

The different approaches chosen for monitoring OSH at national level include:

- monitoring health outcomes,
- describing the workplace environment, and
- describing the infrastructure and the level of prevention at national and at enterprise level.

The 'traditional' data collection approaches on outcome factors such as accident and diseases data have been complemented by some new initiatives which combine data sources and monitor the infrastructure and resources at different levels. All these initiatives aim to reach the goal of having as complete a picture as possible of occupational safety and health at the level chosen, namely for the purpose of early warnings, decision-making and possible corrections.

Needs and possible ways to take forward the issues include those listed below.

(a) Reinforcing successful approaches

- The labour force survey health data gathered through the 1999 module proved valuable. Ideally, a set of OSH-related questions should be permanently incorporated into the labour force survey, which means that data collection would be carried out annually. In addition it would be valuable to collect more detailed data by including the module on OSH in the labour force survey on a regular basis (e.g. every five years). This is in line with the findings in the Agency's 2002 study that several Member States plan to include further health data in their national surveys. This type of research allows emerging diseases to be examined before the link with occupational factors is established.
- The Dublin Foundation could play a key role in making national working conditions survey data more comparable.
- The ILO is going to extend its activities on assessing OSH by including national profiles and monitoring developments with individual sets of indicators at the national level.
- The existing initiatives on national and EU level to include data on gender, age and employment status should be further elaborated to allow for descriptive approaches and conclusions in view of key issues of the new Community strategy. Activities should go into further differentiated description of OSH situations according to these parameters.

(b) Anticipating emerging issues

- Inadequate knowledge of the origin of diseases impedes the development of prevention policy and its adjustment to the reality of occupational risks. This lack of knowledge concerning the reality of occupational diseases also inhibits the development of systems of recognition.
- A list of diseases suspected of being occupational in origin is therefore required, in addition to lists or tables of occupational diseases, in order to pinpoint emerging illnesses. Ideally this would be independent of compensation, avoiding the under-reporting bias experienced in systems that are in current use.
- The protocol and the recommendation adopted by the ILO in 2002 support such an approach, since they anticipate the appearance and systematic recording of diseases which are occupational in origin, whether or not compensation for them is provided.
- The Commission OSH strategy underlines the necessity to recognise emerging issues in occupational safety and health at an early stage. Information from national monitoring systems could be valuable in this respect, by providing information enabling a common EU approach to address these risks and underlying causes.

(c) Addressing needs for further harmonisation

- The Eurostat data collection as well as the experiences on the national level (as also outlined by the presentations from France and Italy) show that further harmonisation of data is needed on occupational accidents and diseases at the European level. Covering the methodological aspects of data collection, Eurostat could play a key role.
- The Commission recently published a recommendation containing a list of recognised occupational diseases⁽²³⁾. It might be necessary to consider the status of the list.
- Medical doctors are given little awareness training in the problems of occupational diseases during their professional training. This should be addressed by mainstreaming OSH into their education.

⁽²³⁾ Commission Recommendation 2003/670/EC of 19 September 2003 concerning the European schedule of occupational diseases (OJ L 238, 25.9.2003, pp. 28–34).



(d) Following novel approaches

- There is a trend on a national level to combine sources of information (outcome data on accidents or diseases, cost data on outcomes, work environment data, worker-related data such as gender, age or employment status and enterprise-related data on sectors or enterprises) to increase knowledge on OSH situations. The European Agency for Safety and Health at Work could play a key role in promoting information exchange on the national activities, possibly via an expert forum, with a view to a future common approach at EU level.
- One approach to monitoring OSH is to monitor and compare individual developments in Member States. This is the case when the variations of accident data and not the absolute numbers are compared with one another. Another example is the choice of individual, country profiles of Member States, which was chosen by ILO and also applied in non-EU Member States. An enhanced cooperation of ILO and the European Agency for Safety and Health at Work would enable an inclusion of these approaches into the information exchange mentioned above.
- The key to improvement of occupational safety and health are measures at the enterprise level. A comprehensive analysis of the systems and parameters for assessing OSH at the company level might provide an overview of good practice and systematic approaches and be a helpful instrument for candidate countries' initiatives on intervention routines.
- As a support to monitoring the impact of the new Commission strategy on safety and health at work it would be helpful to describe the preventive infrastructures and resources for consultancy, enforcement and advice of authorities and enterprises in implementing occupational safety and health with the help of the European Agency for Safety and Health at Work and its network.
- Emerging issues such as stress, impairment of well-being, and harassment are difficult to monitor in the technical sense (e.g. by monitoring effects and outcomes such as diseases like depression, etc.). A qualitative assessment of these issues in a changing world of work needs to be addressed by a monitoring system that includes prevention culture and stress management. An exchange of experience should be promoted in this field.
- Systematically collected data on the level of prevention in enterprises are a fundament for authorities' actions, as underlined by the activities of labour inspections. These comprise preventive actions, risk assessment and its quality, response to authorities' orders, coverage and quality of OSH services provided, involvement of workers, safety representatives, training issues and commitment of management. A harmonisation of these approaches should also be considered at EU level.

Consensus and peer review are crucial, involving experts and social partners; this European workshop has been a valuable early step. Peer review includes validation of the methodology

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in general (a function also performed by this workshop), expert input to the assumptions and techniques, and consensus on the judgment of results. Ideally this should be carried out by forums that include experts and social partners as well as partners from European and other institutions.

5. Further information

All Agency publications are available online and can be downloaded free of charge. Some are available in print from the Office for Official Publications of the European Communities (EUR-OP) in Luxembourg (<http://eur-op.eu.int>) or from its sales agents (<http://europa.eu.int/general/en/s-ad.htm>). Reports are available in English, the magazines are available in four EU languages and factsheets are available in all 11 official Community languages.

This Forum is available in four EU languages at <http://agency.osha.eu.int/publications/forum/>. Other Agency resources where information related to this topic can be found include the following.

- a collection of descriptions of OSH Monitoring Systems <http://europe.osha.eu.int/systems/osm/intro.stm>
- a Forum publication on the changing world of work and trends and implications for occupational safety and health in the European Union <http://agency.osha.eu.int/publications/forum/5/en/index.htm>
- a report on future occupational safety and health research needs and priorities in the Member States of the European Union <http://agency.osha.eu.int/publications/reports/202/en/index.htm>
- factsheets about the economic appraisal of preventing work accidents at company level <http://agency.osha.eu.int/publications/factsheets/28/en/index.htm> and an inventory of socioeconomic costs of work accidents <http://agency.osha.eu.int/publications/factsheets/27/en/index.htm>
- a magazine about work-related stress <http://agency.osha.eu.int/publications/magazine/5/en/index.htm>.

Further information on occupational safety and health and monitoring can be found on <http://europe.osha.eu.int/> under several headings, including:

- monitoring systems of occupational safety and health <http://europe.osha.eu.int/systems/osm/>
- changing world of work <http://europe.osha.eu.int/topics/cwww/>
- the prevention of workplace accidents http://osha.eu.int/acc_prev.info.Res/acc_prevention.php?lang=en&id=4
- gender issues in safety and health at work http://europe.osha.eu.int/good_practice/person/gender/
- other relevant research <http://europe.osha.eu.int/topics/>.

The EU Community strategy on safety and health at work and related information are available on the Internet at <http://europe.osha.eu.int/systems/strategies/future/>.



European Agency
for Safety and Health
at Work

FORUM is published by the European Agency for Safety and Health at Work.

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By drawing on the advice and expertise of the Agency's network partners, **FORUM** aims to provide information and to promote discussion.

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