



WORKHEALTH

Establishment of indicators for work-related health monitoring from a public health perspective

- Synopsis of work-related indicator sets -

Julia Kreis and Wolfgang Boedeker
BKK Bundesverband, Germany

KreisJ@bkk-bv.de

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The synopsis has been prepared to facilitate the development of a model of work-related health monitoring within the European WORKHEALTH project. This model serves as a framework for the identification of indicators.

This document is a discussion paper which describes the actual status of the ongoing project. It does not, at this point, necessarily reflect the opinion of all project group members or the European Commission in all aspects.

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Carlo Ottaviani, Sigurdur Thorlacius, Dimitra Triantafyllou, Richard Wynne, Bart de Zwart

The document on hand was composed in the context of the project “Establishment of indicators for work-related health monitoring in Europe from a public health perspective” (WORKHEALTH).

The project is supported by the European Commission, in the context of the Public Health Programme at the Directorate General Health and Consumer Protection. It is among those projects which began during the former “Framework for Action in the Field of Public Health” lasting from 1997 to 2002 under which eight public health programmes were carried out – one of them was “Health Monitoring”. Since 2003, however, a new action programme lasting until 2008 has come into effect. Health monitoring activities are now subsumed under the strand “Improving health information” which aims at improving knowledge and information for the development of public health.

WORKHEALTH will be carried out by means of three work packages: First, a synopsis of existing work-related indicator sets will be produced as establishing indicators from a public health perspective should make use of existing indicator schemes. This will be followed by an identification of areas still to be developed. Based on the synopsis the second step is aimed at the supplementation of new indicators for work-related health monitoring. This work package includes the identification of data needs which at the same time has to be accompanied by a description of what information is available routinely at national or international level. This step finally allows for identification of data sources and data needs to improve implementation. The last work package focuses on the operational definitions for the indicators. By reflecting the availability of data sources on EU and national level, operational definitions consider possible levels of breakdown of indicators with respect to diagnosis of diseases, socio-demographic factors like age and sex, as well as work place information like job titles and industry branches. These definitions finally allow for an assessment of the validity and reliability of indicators and therefore are a prerequisite for the implementation of work-related health monitoring.

The WORKHEALTH project is carried out by a working group under the co-ordination of the Federal Association of Company Health Insurance Funds (BKK Bundesverband), Essen, Germany.

The members of the WORKHEALTH working group are at present:

Elsa Bach, National Institute of Occupational Health, Denmark

Sisko Bergendorff, National Social Insurance Board, Sweden

Wolfgang Boedeker (project co-ordinator), Julia Kreis, Federal Association of Company Health Insurance Funds, Germany

Marc De Greef, PREVENT- Institute for Occupational Safety and Health, Belgium

Montserrat García-Gómez, Ministry for Health and Consumers, Spain

Karl Kuhn, Hilke Berkels, Federal Institute for Occupational Safety & Health, BAuA, Germany

Kari Kurppa, Finnish Institute of Occupational Health, Finland

Eleftheria Lehmann, State Institute for Occupational Safety and Health of North Rhine-Westphalia - LAfA, Germany

Oskar Meggeneder, Upper Austrian Sickness Fund, Austria

Carlo Ottaviani, National Institute for Insurance of Work (INAIL), Italy

Sigurdur Thorlacius, The State Social Security Institute of Iceland, Iceland

Yannis Tountas, Dimitra Triantafyllou, Institute of Social and Preventive Medicine (ISPM), Greece

Richard Wynne, Work Research Centre LTD., Ireland

Bart de Zwart, AStri Research and Consultancy Group, The Netherlands

Abbreviations

ECHI	European Community Health Indicators project
ECHP	European Community Household Panel
EFILWC	European Foundation for the Improvement of Living and Working Conditions
EODS	European Occupational Diseases Statistics
ESAW	European Statistics on Accidents at Work
ESWC	European Survey on Working Conditions
EU	European Union
ILO	International Labour Organization
LFS	The European Union Labour Force Survey
OECD	Organisation for Economic Co-operation and Development
OSH	Occupational Safety and Health
WHO	World Health Organization

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1 Introduction

As explained in the preface, the synopsis is the first step of WORKHEALTH towards the establishment of indicators for work-related health monitoring.

Based on the fact that several work-related health monitoring schemes already exist, the synopsis is aimed at compiling and evaluating these published or otherwise disseminated indicator sets. In terms of an inventory it shall provide an overview about what is available so far with regard to work-related health monitoring. Being aware of the fact that some compilations already exist (as, for example, the TNO report describes a number of monitoring schemes) we realised that, for our purposes, it was necessary to be more detailed at some points or approach the issue with a different focus.

The purpose of our synopsis is to establish a sound basis for the future work within the project: For detecting gaps in existing health monitoring schemes it is on the one hand necessary to have a profound knowledge about the ongoing activities in this field – thus the required information will be provided by this document. Moreover, on the other hand, gaps can only be detected if there is an awareness of what might be needed beyond the already existing. Therefore a “model of work-related health monitoring from a public health perspective” shall be derived at the end of the synopsis.

Addressees of this document are, first of all, members of the WORKHEALTH working group. However, beyond that it might also be of interest to other people working in this field.

The structure of the document is laid out in the following way:

At first – and this is the main part of the document –, the existing health monitoring schemes are presented while putting emphasis on aspects that seemed most important within the context of the WORKHEALTH project. Afterwards, these documents are integrated with regard to their respective political context. The last part deals with deriving conclusions for the WORKHEALTH project by outlining a concept of work-related health monitoring from a public health perspective and the issues to be addressed by it.

A list of references is given at the end of the document.

2 Description of existing work-related monitoring schemes

This chapter gives an overview about the already existing work-related monitoring schemes that have been identified by the authors. These 14 publications are grouped into three sections: Firstly, publications aimed at indicators schemes are presented. These contain suggestions or definitions of indicators for which data may or may not be already available. The second section deals with monitoring reports, i.e. reports that present the results of monitoring activities that have already been carried out. In the last section, relevant data sources are introduced. The allocation of publications to the respective sections is, however, debatable, as, for example, the European Survey on Working Conditions, which is now subsumed as a data source, might also be considered as a monitoring report.

Each publication is presented by means of different aspects which we considered as most relevant in the context of the project:

- **Political Background:** It appeared necessary to have information about their respective political background in order to gain a comprehensive understanding of the publications.
- **Aim:** In this paragraph, the aim of the publication – if it is outlined – is cited.
- **Structure:** The structure of each publication is described to give a sound idea of the document and also to allow for the detection of differences and similarities in their respective approaches.
- **Level of detail:** Under this heading, a short outline is given concerning the level of operationalisation of the indicators proposed, because the publications differ vastly in this respect. Obviously, this aspect is not relevant for monitoring reports and data sources and it is therefore omitted in those sections.
- **Methodological aspects:** As WORKHEALTH has the task to establish indicators, it was considered as relevant to investigate how the term “indicator” is interpreted or defined within other projects. Also we were interested in how other projects deal with the issue and possible problems of data quality and international comparability of data, as this has been stressed as a major challenge of WORKHEALTH.
- **Data sources/Data collection:** Under the heading “data sources” it is reproduced which data sources with respect to the indicators proposed or the results presented in the monitoring reports are indicated in the respective publications. For those publications which are data sources themselves (EODS, ESAW, LFS etc.), the heading “data collection” gives information about how the data are collected.
- **Further comments:** For some of the publications, further information that is considered relevant is given in this section.

2.1 Publications aimed at indicator schemes

2.1.1 Communication from the Commission of the European Communities. Employment and social policies: a framework for investing in quality.

Political Background

In March 2000 the Lisbon summit was held with the aim of strengthening employment, economic reform and social cohesion. The European Council declared the strategic goal of becoming “the most competitive and dynamic knowledge-based economy in the world capable of sustainable economic growth with more and better jobs and greater social cohesion”.

Later on that year, the Social Policy Agenda was published which “forms part of the integrated European approach towards achieving the economic and social renewal outlined in Lisbon” (p. 2). The aim of “more and better jobs” is picked up again under the label “Quality of work” which includes “better jobs and more balanced ways of combining working life with personal life” (p. 13).

One year later, in March 2001 the European Council in Stockholm confirmed its commitment to achieving this goal. It was decided that efforts over the next 12 months should focus on action related to more and better jobs. In relation to this, the European Council agreed to focus on the importance of quality of work (gender equality, work organisation, life long learning, health and safety, employee involvement and diversity with working life) and asked these elements to be included in the Employment Guidelines for 2002. It called for indicators to be developed by the Laeken European Council – among others – on quality of work.

In this context, the Commissioner Anna Diamantopoulou presented the Communication in June 2001. Based on this Communication, the Employment Committee proposed a list of 8 key indicators and 23 context indicators for monitoring quality of work (Report by the Employment Committee to the Council, Brussels 23 November 2001, 14263/01) which was approved at the summit in Laeken in December 2001 (Forwarding of a text from the Employment and Social Policy Council to the Laeken European Council, Brussels 6 December 2001, 14913/01).

In February 2002 the Employment Guidelines 2002 were published which integrate the proposed concept of quality of work: One objective among others is “to ensure that policies across the four pillars contribute to maintaining and improving quality in work. Areas for consideration could include, inter alia, both job characteristics (such as intrinsic job quality, skills, lifelong learning and career development) and the wider labour market context encompassing gender equality, health and safety at work, flexibility and security, inclusion and access to the labour market, work organisation and work-life balance, social dialogue and worker involvement, diversity and non-discrimination and overall work performance and productivity” (p. 60).

Aim

The Communication “provides a broad framework for addressing quality within the context of the Social Policy Agenda, focusing here on the goal of promoting quality in work” (p. 4). It “aims to take forward the Social Policy Agenda commitment to promote quality in employment and social policy. In particular, it aims

- to define a clear approach to the policy goal of improving quality of work (and to policy implementation)
- to establish a coherent, broad set of indicators on quality in work to reinforce the effectiveness and efficiency of policy in moving towards the goal of increasing quality in work.
- to ensure that the goal of improving quality is fully and coherently integrated in employment and social policy through a progressive series of quality reviews” (p. 4).

Structure

The framework is structured along two dimensions and covers 10 main elements.

Dimension I - Characteristics of the Job Itself (objective and intrinsic characteristics, including):

- Intrinsic job quality
- Skills, life-long learning and career development

Dimension II – The Work and Wider Labour Market Context

- Gender equality
- Health and safety at Work
- Flexibility and security
- Inclusion and access to the labour market
- Work organisation and work-life balance
- Social dialogue and worker involvement
- Diversity and non-discrimination
- Overall economic performance and productivity

For each of the ten elements 3 possible indicators are given. For example, indicators proposed for the element “Health and Safety at Work” are “Composite indicators of accidents at work – fatal and serious – including costs”, “Rates of occupational disease, including new risks e.g. repetitive strain” and “Stress levels and other difficulties concerning working relationships”.

The Commission points out that a gender breakdown should be a standard feature of indicators as well as a regional breakdown where appropriate.

Level of detail

For the indicators listed, the Commission names specific statistical series as well as data sources and the respective periodicity.

Example: For “Composite indicators of accidents at work – fatal and serious – including costs” (see above) they propose to apply a) the incidence rate from ESAW which is produced yearly, b)

the total and mean number of days lost due to accidents at work by sex based upon the Labour Force Survey and c) occupational diseases by sex, also based upon the Labour Force Survey, due mid 2001. It is stated that some of the indicators proposed already exist while others still need to be developed.

Methodological Aspects

a) Defining the term „Indicator“

The role of the indicators is defined as allowing “an assessment of how successful Member States and EU policies are at reaching quality in work goals across these 10 areas” (p. 10).

b) Discussion about quality of data

The issue of quality of data used for the indicators is hardly being discussed in the document. However, the importance of avoiding interpreting indicators in a simplistic way is underlined.

c) Data comparability at international level

As indicated in the document, the Commission considers carrying out benchmarks in this field. It is not explicitly discussed how comparisons of data could be realised or what kind of problems might arise in this regard.

Data sources

Data sources outlined are the European Labour Force Survey, the European Community Household Panel and “other ad hoc surveys on health and safety, working conditions etc. including Eurobarometer surveys” (p. 14).

2.1.2 European Foundation for the Improvement of Living and Working Conditions. Internal Report to the Belgian Ministry of Employment and Social Affairs: Quality of Work & Employment Indicators.

Political Background

As it is said in the introduction, following the Lisbon, Nice and Stockholm EU summits, the focus had been put on the quality of work and employment. Europe should not only create new but better jobs (see 2.1.1) – “good quality” jobs that are sustainable throughout the working life. With regard to its forthcoming Belgian EU Presidency from 1 July to 31 December 2001, the Belgian Ministry of Employment and Social Affairs asked the European Foundation to propose a list of indicators of quality of work & employment to support the political objectives pointed out by the summits mentioned above.

Moreover, the European Foundation and the Belgian Ministry of Employment and Labour co-organised the conference “For a better quality of work” under the auspices of Belgium’s EU Presidency. Its aim was to review the criteria needed to define quality of work, as well as defining potential indicators for evaluating the implementation of such criteria.

Members of the expert group set by the Foundation came, for example, from the Commission (DG Employment and Eurostat), the ILO, OECD, TNO-Arbeid and the Finnish Institute of Occupational Health and Safety.

Aim

In June 2001 the paper was presented to the Belgian Ministry as a first draft “intended to facilitate further discussions” and should be considered as a starting point for the construction of a set of quality of work & employment indicators. The report is described as “only the first step in a learning and long term process” (p. 2).

Structure

They point to the possibility to distinguish between the intrinsic characteristics of work and employment (examples are job content, intensity, health and safety – remind that in the Commission’s Communication the last aspect belongs to the “Work and Wider Labour Market Context”) and the extrinsic ones (earnings, job security, balance between working and non working life,...). Some sources (see below) provide data of either intrinsic nature (e.g. the ESWC) or of extrinsic nature (e.g. the LFS).

The overall structure consists of the following ten domains:

- 1) Conditions of work and employment,
- 2) Balance between working and non working life,
- 3) Modernising work organisation,
- 4) Health and safety,
- 5) Workers’ rights,

- 6) Education and life long learning,
- 7) Earnings,
- 8) Ensure a high level of social protection,
- 9) Ensure equal opportunities for women and men,
- 10) Suppress discrimination.

These domains are each broken down to two to seven more concrete objectives for which indicators are listed.

E.g., for the domain “Health and safety” three objectives are outlined: 1. Work should be sustainable throughout life, 2. Work should not put safety and both mental and physical health at risk and 3. Equity in health. Four indicators are proposed for the first objective, (e.g., Existence of national monitoring systems on working condition), eleven for the second objective (e.g. Fatal accident rate per 100 000 in employment) and one for equity in health (mortality rates by occupation and gender).

Domain 1 (Conditions of work and employment) builds an exception in this regard. The authors indicate that, as the objectives subsumed under this domain “somehow cover what Quality of Work and Employment should be, see the indicators in the domains 2-10” (p. 7) – which amount to more than 100.

It is further pointed out that three types of indicators have been identified: indicators reporting on structures (e.g., number of labour inspectors), indicators reporting on work and employment situations (e.g., exposure to chemicals) and indicators reporting on outputs (e.g., health problems such as stress, occupational accidents).

The authors comment that the final list should probably amount to no more than 10 to 14 indicators and therefore suggest to construct aggregates or indexes. As an example, an index of time quality could aggregate the indicators “duration of working hours”, “predictability of working hours”, “control over working time schedules”, and “intensity of work”.

Level of detail

The level of detail given for the indicators is differing. Some are already very concrete and refer to statistics already collected (e.g., to the Labour Force Survey for indicators for accidents), others still have to be elaborated (for example the proposed indicator “Exposure to chemical, bacterial, carcinogens,... risks”).

Methodological Aspects

a) Defining the term „Indicator“

Three types of indicators are described which serve different purposes (p. 3):

- Indicators aiming at benchmarking are designed to measure progress and should be quite precise (e.g. working time, accidents...).

- Indicators aimed at comparing (countries, sectors, sexes...) should be used with caution as a thorough knowledge of the context is necessary to interpret the possible differences, especially between countries.¹
- Indicators aiming at supporting debate and discussion do not have to be perfect but can still reflect well trends and provide good time series.

b) Discussion about quality of data

The issue of quality of data is not explicitly addressed in the document. However, they announce that at a later stage comments on the nature of indicators (administrative reporting, self-reporting,...) and their reliability shall be added.

c) Data comparability at international level

They point out that appropriate indicators could be used for benchmarking between countries, regions and organisations. However, the difficulties related with comparisons are stressed. For example, misinterpretations might occur if the workforce of the countries compared is not the same. Caution is also asked due to cultural, political, legal and social differences.

Data sources

“The present list of indicators has been drawn from diverse sources, mainly from data collection systems at EU level, and in particular:

- The Labour Force Survey
- The Community Household Panel
- The European Survey on Working Conditions
- The European Statistics on Accidents at Work
- The European Occupational Diseases Statistics.

Furthermore, national sources of information, which at this stage have been ignored, should be considered in the process.” (p. 4)

Further Comments

As the indicators for quality in work as they are used in the Employment Guidelines are based on the indicator set proposed by the Commission, the further political relevance of this indicator set by the European Foundation is not quite clear at the moment.

¹ Difference between benchmarking and comparing?

2.1.3 Workplace Health in the Public Health Perspective: Criteria and indicators for policy and performance of good practice in health, environment and safety management in the enterprises (GP HESME)

Political Background

At the third WHO/EURO Ministerial Conference on Environment and Health in London in 1999, a document titled “Towards good practice in health, environment and safety management (GP HESME) in industrial and other enterprises” was presented. This introduced a holistic concept of health environment and safety management in enterprises and was appreciated by the Ministers, who in their London Declaration, stressed the importance of instituting workplace measures to meet public health needs and goals. They invited WHO and ILO to work together and in co-operation with the European Commission for implementation of environmental practice which also promotes public health.

At the first two meetings of the HESME focal points (March 2000 and May 2001) it was concluded that the concept of good practice in HESME was needed in all countries to strengthen and facilitate the enforcement of occupational health and safety law and environmental law in the enterprises and that the development of common criteria and indicators on GP HESME was a first priority of the programme. WHO/EURO was asked to prepare a set of criteria and indicators which would be adapted to national or local needs and monitoring possibilities (WHP News). Also the importance of workplace health promotion in public health in order to secure the health and productivity of people was stressed.

At the meeting of the European WHO Collaborating Centres in Occupational Health in September 2000 (?) it was pointed out that the HESME concept complements the traditional occupational health and safety with health promotion and health environment.

During the Fourth meeting of the European Environment and Health Committee in June 2001, Dr. Boguslaw Baranski reported that basic criteria and indicators for policy and performance of GP HESME (“comprehensive workplace health management”) were agreed by representatives of ministries of health from 20 countries, the EC and NGOs. It was also pointed out in the minutes that joint activities were organised with the EC’s public health programme and that HESME was at that point of time being actively promoted by four WHO networks (government focal points, WHO collaborating centres in occupational health, the European Insurance Network for Work and Health, and associations of health professionals).

Aim

The document, published in July 2001, was composed with the purpose of defining indicators on GP HESME, as it had been pointed out as a first priority by the meeting of the focal points in May 2000. As it is stated in the document, enterprises or communities have to use the same criteria and indicators in order to compare quality of their health, environment and safety management: “Criteria define characteristics of the enterprise management system or a specific

feature of the local or national policy, which has to be met if the management system or policy is to achieve good practice in HESME.” Moreover, a set of indicators would enable enterprises which practice HESME to carry out benchmarks in order to evaluate their performance and assess their own situation. Therefore, the document is intended for those who are preparing the national, local or branch HESME guidelines in their countries or networks of companies to assist the enterprises of different branches in the development of their own criteria and indicators for HESME. A prioritisation of the objectives and indicators outlined (see below) should be done by the actual user.

The aim of HESME (which is defined as a multidisciplinary approach for industrial and other enterprises) is to promote health and safety in the workplace and to minimise its harmful impacts on the environment. Additionally, HESME approaches the impact of the workplace on neighbourhood health, on the health and environmental impact of its products, and on preservation of the general environment.

Structure

The indicators presented are structured along three different levels.

a) Stakeholders and policy criteria at the national level

Criteria² listed and explained for the national level include commitment on intersectoral and interagency collaboration, national socio-economic incentives for enterprises, availability of good education and training systems and research and development projects. HESME indicators³ at this level should therefore allow for assessment of intersectoral collaboration (public health, environment, labour) to achieve common goals in sustainable development, of efficiency in legislation, of policy effectiveness, of education on HESME issues, of HESME impact on public health and sustainable development and for setting public health targets for enterprises and allow for monitoring whether they are obtained (e.g. increase of disability retirement age). A list of examples of indicators applicable at country level is further given, these include the number of ratified ILO conventions, the percentage of active labour force covered by efficient enforcement of occupational health and safety legislation, costs of accidents and diseases at work as a percentage of GDP.

Criteria, targets and indicators shall be tailor-made for each country, organisation and chosen purpose.

b) Policy criteria at provincial (municipal) level

A number of criteria are presented which in a way describe the necessary actions in the context of a step-wise approach to develop and maintain local HESME programmes, for example:

² For an explanation of the terms „criterion“ see below.

³ For an explanation of the term „indicator“ see below.

analysis of the current situation in HESME, declaration of local authority and other major stakeholders, evaluation of the health, environment and safety (HES) service, support to networking and benchmarking, and collection and dissemination of good examples. A long list is given with five to eleven indicators for each of these headings: Basic information on socio-economic situation of local community or province, health indicators in the local working community, work environment, ambient environment (this includes e.g. emission to air and discharges to water by economic sectors and size of enterprise), technical support provided (e.g. percentage of employees in the municipality covered by OH Services and other HES services), and health and environment promotion process indicators.

c) GP HESME criteria at enterprise level

These are the criteria which should guide employers or top executive managers to undertake step-by-step action at enterprise level: commitment, effective management, participation of employees, competence, deciding the scope and objectives, process elements (like, for example, risk assessment and communication), and reporting requirements. Performance indicators refer to aspects of input (e.g. financial investment in HESME as percentage of the enterprise total budget), process (e.g. percentage of employees participating in vaccinations programmes) and output (e.g. estimated rate of work related diseases/incidence prevalence/mortality, emission to air).

Level of detail

The proposed indicators do not yet constitute a coherent set, but rather an extended compilation of all aspects which might be useful to consider. Their level of detail varies quite a lot and ranges from generic indicators (e.g. “emission to air”) to more operationalised ones (e.g. “percentage of employed population regularly undergoing prophylactic medical examinations by industrial sector, age, gender, occupation”).

Methodological Aspects

a) Defining the term „Indicator“

Criteria and indicators of GP HESME are proposed in detail.

A *criterion* is defined as a principle or standard used for building up the policy at the national or local level or the management system of the individual enterprise. Within this document, criteria are used as specific characteristics of the enterprise management system or a specific feature of the local or national policy, which has to be met if the management system or policy is to achieve good practice in HESME. The purpose of criteria is, as it is pointed out, to guide development of effective management systems in the enterprise.

The aim of *indicators* is to provide different stakeholders with information on the effectiveness and efficiency of HESME – therefore different sets of indicators are proposed for assessing performance in HESME depending on the level (enterprise, local community or province,

national level). A comprehensive set of HESME indicators should cover input, process and outcome indicators.

b) Discussion about quality of data

A section about quality of data from the “Work and Health Country Profiles” (2001) is adapted (see 2.1.4).

c) Data comparability at international level

Although the indicators proposed are aimed at allowing enterprises and communities to benchmark on their HESME-performance, the issue of comparability of data is not being elaborated.

Data sources

The issue of data sources is not explicitly discussed.

2.1.4 Work and Health Country Profiles

Political Background

At the Third Ministerial Conference in London (1999), the need for strengthening the information systems on safety and health at work was emphasised and the implementation of the comprehensive concept of good practice in health, environment and safety management in enterprises (HESME) was supported. As a result, WHO/EURO proposed the preparation of two parallel working documents on preferable indicators on occupational health and safety at the enterprise level, and at the national/regional level. While the document “GP HESME” (see 2.1.3) elaborates on HESME at enterprise level, the Country Profiles, prepared by the Finnish Institute of Occupational Health on the basis of the initiative of Dr. Baranski of WHO/EURO, presents a variety of indicators used to describe the status and trend of OH&S at the national/regional level. These documents are intended to complement each other and might be completed with indicators at a global level in the future (in collaboration with the ILO plans have been made to apply a similar approach at the global level).

Aim

The aim of the Country Profiles-approach is to define a set of OH&S indicators applicable in countries with different economic structures, cultures, levels of statistics etc.

The document aims to “provide suggestions for national profiles that describe the most important parameters in occupational health and safety, starting from a limited number of selected and relevant key parameters, and providing a possibility for more complex profiles with a growing degree of sophistication, according to the needs and possibilities of the countries” (p. 9).

Structure

A model is outlined which describes the domains of the indicators – these are “working conditions”, “health outcomes” and “OH&S policy and infrastructure”. For each of these domains, indicators are discussed and core indicators presented together with a definition and reasons for the inclusion. With regard to the heterogeneity of countries and the consequence that only very few parameters can be compared, the principle of parsimony (i.e., avoiding too many parameters) was applied. Suggested core indicators are listed below.

a) Indicators of prerequisites of OH&S

- Ratification rate of relevant ILO key conventions on OH&S (% ratified)
- Human resources in labour safety inspection (inspectors / 1000 employed)
- Human resources in labour safety at workplaces (safety representatives and managers / 1000 employed)
- Human resources in occupational health services (physicians and nurses / 1000 employed)

b) Indicators of working conditions

- High level of noise (% of employed)
- Handling dangerous substances (% of employed)
- Asbestos consumption (kg / capita / y)
- Pesticide consumption (kg / agricultural worker / y)
- Heavy loads (% of employed)
- Working at very high speed (% of employed)
- Working at least 50h / week (% of employed)

c) Indicators of occupational health and safety outcomes

- Fatal work accidents
- Work accidents
- Occupational diseases (incomparable across countries)
- Perceived work ability (0-10 scale)

The authors considered that work-related diseases and occupational morbidity (such as musculoskeletal diseases, mental disorders, cardiovascular diseases, cancer etc.) are issues that are still in research mode, and not directly measurable with established methods to allow indicators to be constructed.

Even though they did not include socio-economic indicators, they stress the importance of paying attention also to socio-economic factors, such as the proportion of agriculture in the economy and the degree of automation in industrial processes.

Level of detail (indicator or operationalised)

As can be seen in above, the indicators are not generic but already operationally defined.

Methodological Aspects**a) Defining the term „Indicator“**

An indicator is defined as a device which indicates some quality, change, etc. of a situation or system, and draws attention or gives warning. The four categories of indicators by WHO are cited: health policy indicators, social and economic indicators, indicators of health care delivery, and indicators of health status. It is stressed that, while indicators help to measure the attainment of targets, they are not in themselves targets. Criteria mentioned for the selection of indicators are validity, objectivity, sensitivity, specificity and availability.

b) Discussion about quality of data

It is emphasised that the construction of OH&S indicators require good quality data which should be available from international or national sources. A number of projects which provide data on working conditions, exposure, work accidents and occupational diseases are cited. For

data from countries outside the European Union (e.g. data on work accidents collected by ILO) the comparability of data with the European sources is questioned.

c) Data comparability at international level

The general problem of data comparability (one aspect of validity) is discussed – especially with respect to comparisons between countries. As a conclusion, international surveys are considered preferably to administrative data and national surveys when data are compared across countries.

Data sources

Major types of data sources are discussed from the point of view of validity and comparability: administrative registers and statistics (e.g., Pilot project on European Occupational Disease Statistics – EODS), questionnaire-based surveys (e.g., Second European Survey of Working Conditions), expert assessment systems (e.g., International information system on occupational exposure to carcinogens – CAREX), and observational surveys (e.g., National Occupational Exposure Survey – NOES)

Further Comments

In 2002, the Finnish Institute of Occupational Health published a report compiling data on work and health country profiles of 22 European countries. These data were collected by sending questionnaires to the European contact persons of WHO Collaborating Centres in occupational health and safety. It is commented that the selection of relevant occupational health and safety indicators still needs to be considered further and that the comparability of the data also needs to be considerably improved.

2.1.5 Design for a set of European Community Health Indicators: Final report by the ECHI project

Political Background

The following is taken from the ECHI final report:

“The European Commission’s Health Monitoring Programme (HMP) was established in 1997 to take forward the enhanced public health responsibilities of the EU in the public health field. It has as its objective ‘to contribute to the establishment of a Community health monitoring system’, in order to

1. Measure health status, its determinants and the trends therein throughout the Community;
2. Facilitate the planning, monitoring and evaluation of Community Programmes and actions; and
3. Provide Member States with appropriate health information to make comparisons and support their national health policies.

The activities under the HMP have been set out under three “Pillars”:

- Pillar A: Establishment of Community health indicators;
- Pillar B: Development of a Community-wide network for sharing health data;
- Pillar C: Analysis and reporting.” (p. 8)

The ECHI project was designed to address the core business of Pillar A which asks the question which data and indicators should be included in a Community health data exchange system.”

Aim

The objective of the ECHI project was formulated as: “To propose a coherent set of European Community health indicators, meant to serve the three purposes formulated for the HMP, selected on the basis of explicit criteria, and supported by all Member States.” (p. 8)

The scope of the project is defined as follows:

- First, to *define the areas* of data and indicators to be included in the system, following a set of explicit *criteria*;
- Next, to define *generic indicators* in these areas, again following these criteria;
- Where appropriate, to come close to the actual *definition of the indicators*.
- As a novel element, to imply a high degree of flexibility in the indicator set, by defining subsets of indicators, or “user-windows”, tuned to specific users.

Moreover, it was envisaged to provide a guiding structure for the production of public health reports at the level of international agencies, Member States as well as subnational authorities, to identify data gaps and thereby help to indicate priorities for data collection and harmonisation, also as guidance for other projects under the HMP and to serve as a guiding framework for follow-up.

Structure

The eventual health indicator set was aimed at constituting a balanced collection, covering all major areas within the field of public health. The main categories of indicators are as follows:

1 Demographic and socio-economic factors

1.1 Population

1.2 Socio-economic factors

2 Health status

2.1 Mortality

2.2 Morbidity, disease-specific

2.3 Generic health status

2.4 Composite health status measures

3 Determinants of health

3.1 Personal and biological factors

3.2 Health behaviours

3.3 Living and working conditions

3.3.2 Working conditions: physical workplace exposure, mental workplace exposure, accidents related to work, occupational diseases

4 Health systems

4.1 Prevention, health protection and health promotion

4.2 Health care resources

4.3 Health care utilisation

4.4 Health expenditures and financing

4.5 Health care quality/performance

Level of detail

Most of the indicators proposed are defined as generic indicators, i.e., their actual operational definitions have not yet been attempted. The project envisages that this work will be carried out to a large part by other projects financed under the European Commission's HMP, which cover specific areas of public health or areas of data collection.

Methodological Aspects

a) Defining the term „Indicator“

In the ECHI final report, the question “What is an indicator?” is explicitly addressed (p. 23) and the discussion is reproduced below:

“One answer is: ‘A *concise definition of a concept, meant to provide maximal information on an area of interest*’. The German health information system (GBE, Gesundheitsberichterstattung) states that the purpose of an indicator is giving quantitative information about an ‘indicandum’, which is the topic that is to be addressed by the indicator (Federal Statistical Office, 2000). An indicator can be defined at the *generic* level, e.g. ‘smoking behaviour’, or in an *operational*

manner, e.g. ‘% of women in age group y smoking between y and z cigarettes per day’. Operational indicators are always in terms of a *number, calculated from primary data* in a more or less complex manner. An example of a complex calculation is ‘life expectancy at birth’, which is calculated from a large set of age-specific mortality data (cf. ICHI, WHO/EC, 2000).

Indicators are often linked to a purpose. (...) In this context, indicators are formulated for following the progress towards targets. Targets are concrete policy objectives, often stated in quantitative terms.”

b) Discussion about quality of data

The following prerequisites are formulated with regard to the subsequent selection of indicators (p. 9):

- “The actual selection and definition of indicators within a specific public should be *guided by scientific principles*.
- Indicators (and underlying data) should meet a number of methodological and quality criteria concerning e.g. validity, sensitivity, timeliness etc. (*quality, validity, sensitivity and comparability*).
- The probability of changing policy interests calls for a *high degree of flexibility*, made possible by current electronic database systems.
- Selection of indicators should be based, to start with, on existing and comparable data sets for which regular monitoring is feasible, but should also indicate *data needs and development areas*.”

It is pointed out that in the actual operational definitions of the indicators, certain quality criteria shall be met (p. 29). In the Danish Ministry Health Study (Ministry of Health, Denmark, 1994) nine such criteria were formulated which can serve as a checklist in developing the operational definitions of the indicators. As the three most important aspects, an indicator should measure what we think it measures (validity), be sensitive to changes over time or in place, be comparable between countries or regions.

c) Data comparability at international level

Together with the indicators listed a qualitative indication of the degree to which data/indicators are regularly available is given. Indicators are based on data a) regularly available from international (e.g. European Community Household Panel) or b) national sources (e.g. national health interview surveys) or c) they rely on incidental national or regional sources (e.g. surveys on specific topics) or d) no data are generally available at this point. This of course has consequences for the comparability. For a) indicators are usually conceptually clear, valid and reliable; improving comparability may still be needed, whereas for b) improving comparability between countries is usually a major issue. With regard to c), efforts have to be made to make these regularly available within Member States’ information systems; clarifying definitions and establishing comparability between countries is a major issue.

Data sources

For each indicator, a rough indication of the type of primary source from which the data is usually or preferentially derived is presented whereby a rough discrimination has been made between registrations of any kind and surveys. Moreover, it is specified whether the indicator is mentioned in the listings of WHO/HFA, OECD or the Commission (usually Eurostat). It is pointed out that there is a difference in the sense that the Commission list shows what Eurostat is collecting as statistics, whereas the other two rather show what the organisations ask the Member States to submit to them.

2.2 Monitoring reports

2.2.1 The State of Occupational Safety and Health in the European Union

Political Background

The European Agency for Safety and Health at Work was established in 1994 by the European Union in order to serve the information needs of people with an interest in occupational safety and health.

The European Agency's aim, as set out in the founding Regulation, is:

“To provide the Community bodies, the Member States and those involved in the field with the technical, scientific and economic information of use in the field of safety and health at work, in order to encourage improvements, especially in the working environment, as regards the protection of the safety and health of workers as provided for in the Treaty and successive action programmes concerning health and safety at the workplace.”

In order to co-ordinate the work of the European Agency throughout the Member States, each Member State was asked to nominate a competent authority to become a focal point in the European Agency's network. These focal points are asked to set up national networks to support the European Agency's work and co-ordinate national information at Member State level.

Aim

The European Agency decided to undertake a comprehensive assessment of the state of occupational safety and health (OSH) throughout the EU-Member States in order to pursue the goal of making a contribution towards the development of a monitoring system for safety and health at work in the EU. The pilot study is presented as a first step towards this. It aims, as it is declared, at providing decision-makers at Member State and European level with an overview of the current safety and health situation in the European Union and in this way supporting the identification of common challenges and priority areas for preventive actions. Also, as a pilot study, the requirements for conducting future and more regular updates of OSH information across the European Union would be identified.

Structure

The report first gives an introduction and general information about data sources and the methodology applied.

The second chapter outlines the major findings for all exposure indicators and OSH outcomes in the European Union. In this context, information is given, e.g., about potential health effects of exposure indicators, a European picture for the exposition to this indicator, sector and occupation categories most at risk, as well as the most important information about OSH outcomes.

The third, very extended chapter, deals with the working environment and gives very detailed information for all exposure indicators examined (noise, vibration, temperature, ..., repetitive

movements, chemical/biological risks, workplace, violence, monotonous work etc.), the use of personal protective equipment, information given about risks and training provided by employers. For each variable information is given for the EU as a whole, for risk categories (sector, occupation, company size, gender, age, employment status) as well as for all Member States separately. Data based on the European Survey on Working Conditions (ESWC) are compared with nationally collected data and possible differences are commented by the respective Member State.

The fourth chapter gives extended information about occupational safety and health outcomes (accidents at work, work-induced musculoskeletal disorders, stress, occupational sickness absence and occupational diseases), also broken down by risk categories and Member States. The last chapter is about changes in working life (emerging risks, telework, employment status).

Methodological Aspects

a) Defining the term “Indicator“

No explicit definition of the term “indicator” could be found.

b) Discussion about quality of data

The authors point out limitations concerning the accuracy and interpretation of quantitative data. As they say, Member States used different methods for collecting and collating national data – therefore, it has to be realised that the data presented by the focal points have been collected by different methods and, therefore, the consolidation cannot be interpreted as accurate quantitative data: “Any quantitative data can only be interpreted as providing a qualitative overview of expert opinion.” (p. 25)

Other problems relate to, for example, unavailability of information, lack of response or data about sectors and occupations that was categorised differently as per the agreed list distributed along with the manual.

c) Data comparability at international level

With regard to the consolidation process (i.e. the process of compiling data gathered from various national focal points) it is stated in the report that each Member State may have a different understanding and interpretation of the phrases used in the manual. The example given refers to the question “indicate the five occupations with the highest risk” to a particular hazard – was the highest risk interpreted as “high” because there were known fatalities, because a large number of the people were exposed, or because there were a large number of people who had reported suffering minor injuries? (p. 25)

In the course of this progress the contrasting differences in the OSH systems across all Member States have become apparent – and with them the difficulties in comparing the information collected from such systems and using it to present an overall general picture was brought up.

The importance of preparing well structured questions to collect the information with clear definitions to promote a common understanding so as to avoid ambiguity is stressed.

They continue that, to produce a consolidated report which is statistically sound would require each Member State to use an almost identical data collection scheme with similar question sets at the national level and for there to be a common understanding of these questions (p. 26).

The authors of the work and health country profiles (see 2.1.4) point towards problems of comparability as they were experienced in the OSH State report: National data on 21 different OH&S exposures and outcomes were available in 58% of the cases. National data were in accordance with ESWC data in 20% of the cases. National data could, to a substantial degree, either not be compared with ESWC data (24%), or they were different (14%). They conclude that comparable data from national surveys are available only in the minority of cases. Reasons they suggests are, for example, that contents and answering alternatives in two survey may differ, the sample size and structure, as well as the survey methods may influence the results and also language differences may be of concern (Work and Health Country Profiles, 2001; p.18).

Data sources

The data for most of the indicators were gathered with the help of a manual that was sent to the national focal points. This manual provided information about data from the 2nd European Survey of Working Conditions (see 2.3.3) per risk factor or exposure indicator. The focal points were asked for national data from e.g. national surveys; in case national data were available, the focal points were then requested to compare these data and the data from the ESWC. The focal points were asked for their opinion to determine which 5 sectors and 5 occupations are at highest risk to the exposure indicator, about the trends on the numbers of workers exposed over the last 3-5 years and they indicated if there were any particular risk categories in sectors, occupations, company size, gender, age, employment status. Data on accidents were provided by Eurostat.

The availability of data was dependent on the area: For the more historic health and safety topics such as noise and asbestos there was an abundance of information available; for other exposure categories, however, e.g. stress, workplace dictated by social demands and machine dictated workplace, much less data were available.

2.2.2 The European Health Report

Political Background

The following is taken from the introduction (p. 1):

“The 1956 Treaty of Rome, reinforced by successive treaties, provides the Commission with a legal framework for its actions in the health field. The 1997 Treaty of Amsterdam focuses on health protection and disease prevention and identifies the need for further actions to ‘achieve improvements in public health’, as well as activities to ‘prevent diseases and health problems’ and the ‘reduction of risks to human health’. The November 1993 Framework for Action in the field of public health required the Commission to publish regular reports on the state of health in the European Union (EU). In 1996, the first report was based on work done by the World Health Organization (WHO). This report is an update and extension of the previous report.

It is published as the output of a technical expert group composed of representatives of the Member States and financed by the Community Health Monitoring Programme.”

Aim

As it is declared in the preamble, the Community Health Status Reports are aimed at improving public knowledge and understanding of major health problems in the Community in order to support the appropriate measures at Community, Member State or individual levels.

The overall aim of this report is to identify the common problems and challenges associated with the health status in the Member States.

Structure

The report is divided into three chapters:

The first chapter deals with the current health status, focusing particularly on the patterns and trends of morbidity, disablement and premature mortality. Chapter 2 addresses a number of determinants of the observed health status. This includes socio-economic determinants (GDP per capita; education; household, family and other social networks; employment; unemployment), health behaviours (smoking; alcohol abuse; drug abuse; diet and nutrition; physical activity; sexual behaviour), physical environment, health promotion (health protection interventions; disease prevention; risk approach; health promotion in key settings), health care services (expenditure on and resources available for the provision of health care; health care facilities; technological resources). In the third chapter, a number of opportunities for joint action by all Member States in order to reduce the problems identified and to narrow the health inequalities observed are pointed out.

Methodological Aspects

a) Defining the term „Indicator“

No explicit definition of the term “indicator” could be found.

b) Discussion about quality of data

The quality of data is not discussed as an explicit topic. Instead, limitations of data quality and comparability are mentioned in the text when relevant.

c) Data comparability at international level

See above.

Data sources

The information used in this report comes from a wide range of sources, mainly from international health data collection organisations: Eurostat (main source for data on population and demographics), WHO/EURO (source for morbidity and mortality) and OECD (for socio-economic and health care provision data).

2.3 Data sources

2.3.1 European Occupational Diseases Statistics (EODS)

Political Background

As it is pointed out in the foreword, the establishment of European wide comparable data represents an important element in the European Commission's strategy to evaluate the efficiency of Community legislation on health and safety at work: "Knowledge of the numbers and frequencies of occupational diseases in the various sectors and occupations provides an important basis for monitoring and prioritising preventive actions at Community level to improve Health and Safety at Work, as underlined by the Council Resolutions 88/C 28/01 and 95/C 168/01."

However, the comparability of occupational diseases (OD), recognised on the basis of different social security systems, has been a controversial point. This problem was addressed by the Commission by launching a pilot project on the collection of data on recognised cases in 1995 for 31 items of the European Schedule of Occupational Diseases in the European Union (EODS Pilot project). The report of this project which was carried out by the Finnish Institute of Occupational Health indicated that "such data can be used in prevention and in the evaluation of the impact of the problem" – although "the data on recognised occupational diseases reflect not only the occurrence of such diseases but inevitably also the way in which the concept of an occupational disease has been integrated into the social security system". Based on this experience and on the information obtained by a detailed disease-specific questionnaire to the Member States, the EODS Working Group decided the implementation of EODS Phase 1 in which annual data will be collected on new recognised cases of occupational diseases from 2001 onwards in 14 Member States (only Germany is not participating).

Aim

The overall aim of EODS is to obtain gradually harmonised, comparable and reliable data and indicators on occupational diseases in Europe. The launch of EODS Phase 1 is the first step of this project.

Structure

The data collected are organised in a way that each case is defined by a total of 50 characters (numeric and alphanumeric). These characters are defined and structured as follows.

Case number: A unique case number shall always be supplied when case-by-case data are transmitted.

Country of emergence: This is defined as the country where the disease was contracted and recognised because a disease is only recognised by the country of origin.

Age: For the case-by-case data the age is presented by age in numbers of years of the victim at the time of recognition of the disease.

Sex: This is a simple categorical variable.

Occupation: The victim's occupation in the period of harmful exposure is classified according to a short version of the ISCO-88 (COM).

Economic activity of the employer: The type of economic activity of the employer of the period of harmful exposure is classified according to a short version of the NACE, Rev 1.

European Schedule Reference N°: This variable provides an indicator for agent and/or type of exposure.

Diagnosis: Information on diagnosis is classified according to the ICD 10 nomenclature.

Exposure: Information on exposure shall be classified according to the classification provided in the publication "Classification of the causal agents of the occupational diseases – EODS".

Exposure – use categories: In accordance to the same publication use categories – i.e. the product that contained the exposure agent – shall be classified.

Severity of disease: A distinction is made between permanent and temporary disabilities. Permanent disabilities are classified with regard to the degree of disability, temporary disabilities on the other hand according to the total duration of sick leave (which is in all cases >3 days according to inclusion criteria 2).

Year of first recognition: This variable shall be coded for all cases.

Severity of disease for the first recognition: This variable is identical with "Severity of disease recognised in the reference year" for those cases which are recognised for the first time.

Methodological Aspects

EODS Phase 1 covers incidence data for the reference year (2001 is the first reference year) and prevalent cases leading to the death of the victim in the reference year.

Five inclusion criteria for recognised cases (i.e. cases which are administratively accepted as an occupational disease) are stated:

1. All cases of OD which are in accordance with the list of disease specific entities and which fulfil the disease specific inclusion criteria in Annex A of the document.
2. The EODS Phase 1 covers prospective incident data for the reference period, i.e. those ODs *recognised* in the respective year (first reference year: 2001).
3. The EODS Phase 1 covers also prevalent cases previously recognised as temporary or permanent disease, i.e. before the reference year, for which the person died because of the OD during the reference year.
- 4./5. Only in an optional and pilot way for the Member States wishing so, the EODS Phase 1 covers also prevalent cases, which have changed status from a temporary to a permanent occupational disease during the reference period (4) and prevalent cases with a permanent disability, where the level of disability has been changed during the reference period (5).

a) Discussion about quality of data

High quality data is a major aim of the application of the EODS methodology.

b) Data comparability at international level

As comparable data are the major aim of EODS, a lot of effort has been put into this aspect: The evaluation of the EODS 1995 pilot data had revealed several problems in comparability of national statistical data on OD. Therefore, with the help of an extended questionnaire, more detailed data were collected on the national recognition criteria and assessment of severity of disease with the aim of maximising the comparability of data collected.

The current inclusion criteria and variable characterisation take into account the information obtained from this questionnaire. As a consequence, for example, “mild permanent diseases” with a degree of incapacity not higher than 9% which are considered less comparable between the various national systems are also included in the data, but as a category of its own and can therefore be excluded from the analysis if necessary.

A number of further problems are discussed, for example for those diseases for which in some countries no sick leave will be considered when in another country they could involve a few days off work. As a consequence, by analogy with the threshold used for accidents at work, the temporary diseases with less than 4 days’ absence are considered but are specifically identified as “mild temporary occupational diseases” to exclude them from the analysis when necessary.

Data collection⁴

⁴ How are the data actually collected? Are there already results / analysis available?

2.3.2 European statistics on accidents at work (ESAW)

Political Background

The following is cited from the publication (p. 11):

“The Framework Directive on Health and Safety in the Workplace (1989) requested the Commission to proceed with the harmonisation of data on accidents at work. On this basis, the ESAW project was launched in 1990, aiming at harmonised data on accidents at work for all accidents entailing more than three day’s absence from work. The ESAW project has been an integral part of the framework programme for priority actions in the field of statistical information from 1993 to 1997.

In addition, a Council Resolution from 1995 furthermore calls upon the Commission ‘to complete the work in progress on harmonising statistics on accidents at the workplace...’. The Programme concerning Safety, Hygiene and Health at Work (1996-2000) also foresees the continuation of the implementation of this project.

Furthermore, the European Community Statistical Programme 1998-2002, which defines the main fields and objectives of the community statistics, foresees the establishment of consistent series of data on a European level in order to provide the means for the monitoring of health and safety at work and the efficiency of regulation in this field.”

Aim

The aim of the ESAW project is „to collect Union-wide comparable data on accidents at work and establish a database.” Comparable data on work accidents are a prerequisite for monitoring trends in health and safety at work in the Union and for promoting accident prevention both at Community level and the individual Member States.

The goals are to provide data on high-risk groups and sectors and indicators on both the causes and the socioeconomic costs of accidents at work. Consistent series of data should be established to provide the means for the monitoring of health and safety at work and the efficiency of regulation in this field.

It is also an aim of the ESAW project to develop a methodology which is as far as possible comparable with other international statistics and to participate in the co-ordination of such work.

The ESAW data include all cases of accidents at work leading to an absence of more than three calendar days – i.e., an accident at work is included if the person is unfit for more than three days even if these days include Saturdays, Sundays or other days where the person is not usually working. The definition of an accident at work is “a discrete occurrence in the course of work, which leads to physical or mental harm” (p. 12).

Structure

The data ESAW collects can be structured along three types of basic information that are required to codify an accident properly (p. 15)

- *Information to identify where the accident occurred, who was injured and when* (case number; the economic activity of the employer; the victim's occupation, occupational status, sex, age and nationality; the geographic location and size of the enterprise's local unit; the working environment and the working process)
- *Information to show how the accident occurred, in what circumstances and how the injuries came about* (i.e. the event broken down into three sequences: the specific physical activity; the deviation; the contact-mode of injury; their respective associated material agents)
- *Information on the nature and seriousness of the injuries and the consequences of the accident* (body part injured; the type of the injury; the number of days lost)

Methodological Aspects

The general aim was to compile a methodology which was detailed enough to be effective but at the same time was not too complex, both as a whole and for each individual variable, so that this statistical system would be easy to implement. As well as being straightforward, it was also intended to be open and adaptable over time.

The methodology applied in this publication aims to provide a detailed description of the characteristics of the victim, his/her enterprise and injury as well as a breakdown of the sequence of events leading to accident for the purpose of establishing a European-level prevention policy (p. 15).

a) Discussion about quality of data

Eurostat continues to identify and evaluate the various problems that currently still limit the comparability of the ESAW data between the Member States. However, it should first be recalled that the importance and the added value of the ESAW statistics is to provide aggregated results at a European level and not to focus on the comparisons of the results of the Member States. Some of the principal problems that still persist are coverage, reporting levels and inclusion/exclusion of specific types of accidents – these are all covered by the ESAW Evaluation Questionnaire which forms part of the ongoing process of improving the quality of data.

b) Data comparability at international level

The ESAW data are based on administrative sources in the Member States. Compared to surveys the harmonisation prospects of ESAW data therefore depend on the operative reporting procedures, the possibility of modifying these or adapting their data to ESAW concepts and specifications.

Mainly two types of reporting procedures can be identified in the various Member States: The insurance based systems, which can be found in 10 Member States (e.g., Germany, Italy), have reporting structures mainly based on the notification of the accidents to the insurer. The reporting levels for accidents at work are in general very high in the insurance-based systems and considered to be about 100 percent. In other Member States (e.g., The Netherlands, Sweden) the benefits provided to the victim of an accident at work are in general not depending on a preliminary reporting of the accidents and consequently the economic incentive for notifying is not very strong. As a consequence, only a part of work accidents are actually reported and the average reporting levels for these systems usually range from 30 to 50 percent.

Because of the differences in the national reporting procedures, a detailed evaluation is carried out by the way of an evaluation questionnaire which covers mainly the definition of an accident at work, the coverage of groups and the reporting levels. The national replies to this questionnaire are submitted to Eurostat together with the annual ESAW data. Eurostat then harmonises the data: e.g., Eurostat corrects the submitted data on accidents on the basis of the reporting levels (provided by the Member States, based either on an evaluation of the reporting procedures or on the basis of other data sources, e.g. surveys) and deduces from it an estimate of the number of accidents at work *occurred*.

Moreover, Eurostat carries out a standardisation of the work accidents with respect to the industrial structure of the Member States as the total frequency of work accidents is highly dependent on the share of high-risk sectors.

Data collection

Eurostat receives the ESAW data from the Member States' national registers or other bodies responsible for the collection of data on accidents at work.

Additionally, ESAW has some links with the Community Labour Force Survey (LFS). In particular the ESAW reference population used to calculate incidence rates of accidents at work is based on LFS data. Additionally, to have a broader view on the situation, an "ad hoc" module on Health and Safety at Work has been introduced since the 1999 LFS-Commission Regulation.

Further comments

The Phase 2 data already allow a first approach of the socio-economic costs of the accidents at work with the variable "days lost". Global indicators including also days lost due to work-related health problems other than injuries would be developed in near future, in particular including data from the ad hoc module on accidents at work and occupational diseases in the 1999 Labour Force Survey. More generally, works are being developed to integrate other aspects of the quality of work and well-being of workers.

2.3.3 European Survey on Working Conditions (ESWC)

Political Background

The European Foundation for the Improvement of Living and Working Conditions was set up as a European Union body in 1975 in order to contribute to the planning and establishment of better living and working conditions through action designed to increase and disseminate knowledge likely to assist this development. Following this tradition, the Foundation has carried out three surveys on working conditions since the early nineties: 1990/91, 1995/95 and the latest one in 2000 which included all 15 Member States and Norway. In 2001, the same data were collected in all Candidate Countries except from Turkey.

Aim

“These surveys aim to provide an overview of the state of working conditions in the European Union, as well as indicating the nature and content of changes affecting the workforce and the quality of work. Since they are of a general nature, obviously they cannot address all the issues in detail. However, they do indicate the need for more detailed research, including qualitative research, on specific issues.” (Foreword)

Structure

The presentation of results is structured along 10 chapters in which the information gathered in the interviews is subsumed:

- Context and structural variables,
- Nature of work,
- Physical work factors,
- Work organisation,
- Time,
- Information and consultation,
- Psychosocial factors,
- Outcomes,
- Income and payment system, and
- Work and family life.

Chapter 1 describes the methodology used and Chapter 12 deals exclusively with data from Norway.

Methodological Aspects

a) Discussion about quality of data

In the OSH State Report (2001), it is commented on the ESWC that on some issues, it is not, by far, as detailed and possibly as reliable as the data provided by more specialised surveys: The

aim was not to provide for example on working hours a review of working time in Europe, but rather to enable a link between working time and working conditions.

As the sample size is limited to 1000 workers for each country, breakdowns may result in subgroups too small to draw conclusions.

It is noted that the survey describes working conditions as perceived by the respondents.

It is further commented that survey results always need to be validated, whenever possible. This was done with the second survey results by comparing them with the LFS results for the same year on some indicators – the examined figures were very close or even identical.

b) Data comparability at international level

The authors remind the reader to take into account that legal and cultural differences between countries may influence the way the questions are understood and hence determine the answers given. They point out that the level of knowledge or awareness about working environment problems and the attitudes and the concern about such problems may vary greatly from one country to another: “In some countries, the concept of working environment is well known and accepted; in other countries the working environment is perceived to be part of daily life and therefore problems experienced in connection with working situations are considered to be a ‘normal’ part of the conditions of life and as such not given special consideration.” (p. 3)

An illustrative example of linguistic issues and responding culture influencing the comparability across countries is exposure to cold. For the question “How often are you exposed at work to low temperatures either outdoors or indoors?” the highest prevalences were reported by Greek (44%) and Portuguese (33%), whereas, e.g., Finnish (19%) and Swedish (22%) interviewees reported less exposure (Work and Health Country Profiles, 2001; p. 26).

Also differences between the industrial structure in the countries as well as the distribution of the workforce between sectors make direct comparisons even more difficult. (OSH State Report, p. 20).

Data collection

Face-to-face interviews were conducted with a total of 21,703 workers in their own homes - around 1,500 in each Member State except Luxembourg where the persons interviewed totalled to 527.

A representative sample of the total active population, i.e. persons from the age of 15 years upward who were at the time of interview either employees of self-employed workers or self-employed workers, was sought via a random walk procedure. Retired and unemployed persons, as well as housewives and students, were excluded.

Further comments

The ESWC is the only data source which provides uniformly collected information about intrinsic job characteristics – “soft data” – of the working population in the EU.

A number of questions deal with the effects of work to the health of the interviewees. This topic is addressed subjectively from the workers' point of view. More precisely, they are asked the questions "Do you think your health or safety is at risk because of your work, or not?" and "Does your work affect your health, or not? (If yes) How does it affect your health?". The answers given refer to hearing problems, problems with the vision, skin problems, backache, headache and stomach ache, muscular pains (shoulders and neck, upper limbs, lower limbs), respiratory difficulties, heart disease, injury, stress, overall fatigue, sleeping problems, allergies, anxiety, irritability or trauma. Also the answer "My work improves my health" is possible. The interviewees are also asked about the number of days over the past 12 months they were absent due to an accident at work, health problems caused by work, and due to other health problems.

2.3.4 The European Union Labour Force Survey (LFS)

Political Background

While the first attempt to collect comparable data on employment and unemployment was made in 1960, the issues of employment and unemployment have become of even higher priority for the institutions of the European Union since then. In order to carry out the tasks assigned to it, the Commission's need for accurate and comparable information on the labour market in the Member States has become more urgent during the last years – and the best method of obtaining such information at Community level is to conduct harmonised labour force surveys. The EU Labour Force Survey has therefore steadily become more important, and is now said to be an indispensable tool for observing labour market developments and for taking the appropriate policy measures. (p.2)

While – as mentioned above – a first attempt to carry out a labour force survey goes back to 1960 and while there have been various series of surveys from that time on, an important revision took place in 1998 when a new framework for the LFS was adopted in Council Regulation N° 577/98. The main changes concerned the frequency of the survey (a continuous survey providing quarterly and annual results was introduced), a number of variables have been introduced, the education and training module has been completely re-structured, a new module on income has been introduced as well as a programme of ad hoc modules on specific subjects. Slight changes have then again been introduced in 2001 with regard to the variables adopted in 1998.

Aim

The LFS is a joint effort by Member States to co-ordinate their national employment surveys. It aims to provide comparable statistical information on the level and pattern of and trends in employment and unemployment in the Member States. The main statistical objective of the LFS – as outlined in the document itself – is to divide the population of working age (15 years and above) into three mutually exclusive and exhaustive groups – persons in employment, unemployed persons and inactive persons – and to provide descriptive and explanatory data on each of these categories (p. 10).

The principal scope of the survey consists of persons residing in private households on the economic territory of each Member State.

Structure

Data are provided on demographic background, labour status, employment characteristics of the main job, hours worked, second job, previous work experience of persons not in employment, search for employment, methods used during previous four weeks to find work, main labour status, education and training, situation one year before the survey, income, technical items relating to the interview and atypical work. It also assesses the reason for not having worked at

all during the reference week although having a job. One possible answer – among others like “Labour dispute” or “Holidays” – is “Own illness, injury or temporary disability” and therefore very relevant from a (public) health perspective.

A further set of variables may be added in so called “ad hoc modules” in an agreed quarter (e.g., 1999 - accidents at work and occupational diseases, 2000 - educational and vocational training, 2001 - length and patterns of working time).

Methodological Aspects

a) Discussion about quality of data

The LFS is considered unique among the statistical instruments available in the European Union with respect to its sample-size, the length of time-series it offers and for the information it can provide of economic and social developments from the very beginning of the European Community until today (p.2).

The issue of reliability – more precisely the problem of sampling and non-sampling errors – is briefly discussed. However, this is not considered as a serious problem with respect to accuracy as long as results are analysed on a national (versus regional) level.

b) Data comparability at international level

In the preface, the LFS is declared as the only source of information in these areas which provides data which are truly comparable in the sense of being independent of the national administrative and legislative framework. The degree of comparability of the LFS results is considered much higher than that of any other existing set of statistics on employment or unemployment available for Member States, due to, for example, the recording of the same set of characteristics in each country and the use of the same definitions and common classifications. However, some differences in the surveys used in the Member States remain, as the surveys have to serve each country’s own national requirements as well. Generally, perfect comparability among countries is of course difficult to achieve – even if the survey is carried out at the same time, using the same questions and a single method of recording (p. 9 – 10).

Data collection

Data are collected by the national institutes which are responsible for selecting the sample, preparing the questionnaires, conducting the direct interviews among households, and forwarding the results to Eurostat in accordance with the common coding scheme. Eurostat is then responsible for processing and disseminating the information sent by the national institutes (p. 7).

2.3.5 European Community Household Panel (ECHP)

Political Background

With the Treaty of Amsterdam, European Union and Member States have implemented a set of major political commitments, among them the commitment to place citizens' rights and employment at the heart of the EU. In this context, the focus of the EU on concepts like "a social Europe", "social exclusion" and "equal opportunities" shall be increased. Therefore it is increasingly important to acquire internationally comparable data on the social and economic conditions of persons and households in the EU with the aim of building up knowledge in this area.

Aim

In the foreword, it says: "The European Community Household Panel (ECHP) that was launched in 1994 has a central role in the development of comparable socio-economic statistics across Member States on income including social transfers, labour, poverty and social exclusion, housing, health and medical care, family and household types, as well as various other social indicators concerning living conditions of private households and persons. This multi-dimensional pattern makes it possible to also study all the interrelationships between these dimensions which greatly enhances the potential for policy-relevant research.

The 'panel' design also allows the same households and persons to be monitored over several consecutive years. (...) The ECHP will provide information on transitions (e.g. from education to work and from work to retirement) and consequences of certain events (e.g. unemployment, divorce) at the micro-level, i.e. at the level of the individual persons and households." (p. 4)

Structure

There are two version of questionnaires for each household: one for the household as a whole, the other one for individual respondents.

The household questionnaire deals with questions concerning the housing situation and the household's financial situation and income. In 2001, e.g., all household members born in 1984 or later were asked to respond to the individual interview. This deals with the following issues: current economic activity or the last main job or business, social relations and responsibilities, current or recent education or training, activity during last calendar year, personal income during last calendar year, health, and biographic information.

Methodological Aspects

a) Discussion about quality of data

Three important aspects of data quality (besides accessibility and comparability) are mentioned: relevance, statistical accuracy and timeliness.

- relevance

As it is pointed out, the ECHP is a unique source of information on household income and living conditions in the European Union because of the comparability of the data gathered as well as the multidimensional coverage and the longitudinal design of the instrument which allows the study of changes over time at the micro level.

- statistical accuracy

The percentage standard error at the national level, based on the whole example, is quite small (ranging between 1.0% and 1.3% for most countries). In some countries higher figures can be found, depending on their sample structure and weighting. Of course, the sampling error is larger for estimates of subgroups in a country.

- timeliness

With respect to timeliness, the main concern is the time lag between data collection and data release. While the Eurostat “EU version” of the first wave files was issued 23 months after the data collection had been finished, the time lag for wave 2 increased respectively to 28 and 33 months for the crosssectional and longitudinal EU files which was longer than initially planned. Reducing the time lag is being given the highest priority and a significant improvement is expected in this respect.

b) Data comparability at international level

Two dimensions of comparability are outlined: comparability in space (i.e. across countries) and over time (across ECHP waves within and among the national surveys).

The concept of comparability applied for ECHP is described: Comparability means that data for different populations can be legitimately put together, compared, and interpreted in relation to each other and/or against some common standard.

Comparability of results across countries is defined as a fundamental aspect of data quality in a multi-country project. In ECHP it is achieved “through a standardised design and a common technical and implementation procedures, with technical and implementation procedures, with centralised support and co-ordination of the national survey by Eurostat. This includes similar national questionnaires as well as common procedures for data processing and statistical analysis, common sampling requirements and common frameworks for analysis through a collaborative network of researchers.

Comparability in time is achieved by keeping the interval between successive waves for a given country close to twelve months and by keeping to a minimum the changes to the ECHP questionnaire from one wave to another.”

Data collection

ECHP data are collected by so called NDUs – National Data Collection Units – which are either National Statistical Institutes or research centres, depending on the country. The first wave took place in 1994.

The same structure and procedure is followed by all participating countries: an initial probability (random) sample of households interviewed at annual intervals using identical follow-up rules to trace the movement of persons and households. Generally, the target population covers all private households throughout the national territory of each country. For most countries (Luxembourg is an exception) the sample size ranges between 3,500 and 7,000 households, with an average of 5,000 per country.

As far as possible, the interval between successive waves for a given country should be twelve months.

2.3.6 Organisation for Economic Co-operation and Development: OECD Health Data 2002

Political Background

The following is cited from the OECD website (see References) and the OECD Health Data 2002 documents available there:

“The OECD grew out of the Organisation for European Economic Co-operation (OEEC), which was formed to administer American and Canadian aid under the Marshall Plan for the reconstruction of Europe after World War II. Since it took over from the OEEC in 1961, the OECD’s vocation has been to build strong economies in its member countries, improve efficiency, hone market systems, expand free trade and contribute to development in industrialised as well as developing countries.

After more than four decades, the OECD is moving beyond a focus on its own countries and is setting its analytical sights on those countries that embrace the market economy. The OECD Secretariat has been publishing health statistics since the mid-1980s. The coverage of its Health Data files is very wide and for many indicators the series goes back as far as 1960.”

Aim

“The demand for health-related data is high. One of the main obstacles limiting meaningful analysis of health care systems has always been, and still is, the lack of sufficient coverage and availability of health care statistics. The need for internationally-comparable data is on the rise as national administrations seek to evaluate their health care systems against those of other countries. *OECD Health Data 2002* aims to address a sizeable part of these needs for Member countries. The database is designed to further the knowledge of health services inputs and throughputs, highlight differences in common medical practices, help quantify key non-medical health-related factors and, in a world of financial constraints, to describe key features of each system’s financing and delivery mechanisms.”

Structure

“The current version is the tenth edition of the OECD Secretariat’s electronic data base on health systems. It is an interactive database presenting systematically collected data on a great number of key aspects of the health care systems in the 30 OECD Member countries within their general demographic, economic and social contexts.

1. Health status (Mortality, Morbidity)
2. Health care resources (Health employment, In-patient beds, Medical technology, Education in health and welfare)
3. Health care utilisation (Ambulatory care activity, In-patient utilisation, Average length of stay, Discharges, Surgical procedures)

4. Health care expenditure, financing and remuneration (National expenditure on health, Expenditure on medical services by functions, Medical goods dispensed to out-patients, Expenditure by age-groups, Direct expenditure by disease, Price indices, Health expenditure by sources of funds, Medical services' fees)
5. Social protection (Social expenditure, Health care coverage)
6. Pharmaceutical market (Pharmaceutical industry activity, Pharmaceutical consumption, Pharmaceutical sales)
7. Non-medical determinants of health (Life styles and behaviour, Environment)
8. Demographic references (General demographics, Population age structure, Labour force, Education and training)
9. Economic references (Macroeconomic references, Monetary conversion rates)"

Some of the variables link to the workplace setting, such as "Absence from work due to illness", "Expenditure on occupational health care" or "Social expenditure on Occupational injuries and diseases" as well as "Social expenditure on Sickness benefits".

Methodological Aspects

a) Discussion about quality of data

"Some 1200 series were selected for the 2002 version of the information system according to whether they were relevant to the description of key aspects of health care systems, sufficiently consistent to enable cross-national comparisons and available in a significant number of countries. Although many of the variables still do not satisfy all three criteria, inclusion of these statistics may help to encourage greater conceptual convergence among OECD Member countries. *OECD Health Data 2002* permits users to assess data quality via the consultation of sources and methods attached to the variables. This qualitative information gives the standard definition of the variable and, where applicable, identifies any discrepancy between national data and the standard definitions."

b) Data comparability at international level

"All users of cross-national comparisons of health care data are advised that there are still important gaps with respect to international agreements on statistical methods.

The principle concern of the OECD Secretariat is to ensure that the data presented in *OECD Health Data 2002* is as comparable as possible across countries and over time. In order to improve the quality of international comparisons of data on health expenditure and its financing, the OECD published the manual *A System of Health Accounts* (SHA) in May 2000. Despite efforts to develop homogeneity, standardised health statistics is still a goal, not a reality.

Comparability across countries :

OECD Member countries are at varying stages of reporting total expenditure on health according to the boundary of health care proposed in the SHA manual. This means that data reported in

OECD Health Data 2002 are at varying levels of comparability. In general, the data fall into four groups. The first group of data is from countries that report health expenditure information that closely follows the health care boundary proposed in the SHA manual (Australia, Canada, Denmark, France, Germany, Hungary, Japan, Korea, the Netherlands, Switzerland, the United Kingdom and the United States). Thus the data are believed to be fairly comparable.

The second group of data is from countries that produce health accounts with boundaries that are not fully mapped to the OECD/SHA boundary of health care (Czech Republic, Finland, Mexico, New Zealand, Poland, Spain and Turkey). These data, although often quite detailed, are of limited comparability.

The third group of data is from countries (Austria, Greece, Iceland, Ireland, Italy, Luxembourg, Norway, Portugal, Slovakia and Sweden) that rely on national accounts for estimating health expenditure. These are not well suited to make detailed estimates of expenditure on health and create numerous problems for international comparisons.

The fourth group of data consists of estimates made by the OECD Secretariat. These estimates are based on a combination of data from national accounts and other sources for countries that do not produce their own national health expenditure estimates. Belgium is the only country in this group.

Comparability over time :

An important concern for analysts is the comparability of data over time. *OECD Health Data 2002* presents health expenditure and finance data back to 1960 for some countries. Breaks in time series are frequent and are mostly due to changes in reporting systems.”

Data sources

For each of the indicators, an extended lists indicates the relevant data sources for the respective countries.

The four types of main sources for data presented by OECD are (source: Manfred Huber, Meeting of HMP project co-ordinators, 19 March 2002):

- electronic questionnaire
- data exchange with other international collections (NewChronos, WHO mortality database)
- data exchange within the OECD Secretariat (labour force, education, general economic data)
- non-routine “data” from research (e.g. health expenditure by age; healthy life expectancy; ageing related disease project)

Further comments

The latest version “OECD Health Data 2003” has recently been released (June 2003) and is now available in the internet at <http://oecdpublications.gfi-nb.com/cgi-bin/OECDBookShop.storefront/EN/product/812003103C1>.

2.3.7 International Labour Organization: Key Indicators of the Labour Market (2001-2002)

Political Background

The following is cited from the ILO homepage:

“The International Labour Organization is the UN specialized agency which seeks the promotion of social justice and internationally recognized human and labour rights. It was founded in 1919 and became the first specialized agency of the UN in 1946. The ILO formulates international labour standards in the form of Conventions and Recommendations setting minimum standards of basic labour rights. It plays a major role in assisting member states to promote full employment and decent work through economic and social policies that adapt to rapid changes in the world of work.

According to Article 10 (1) of the ILO Constitution: ‘The functions of the International Labour Office shall include the collection and distribution of information on all subjects relating to the international adjustments of conditions of industrial life and labour...’ In line with this mandate, the ILO Bureau of Statistics has since 1921 collected and disseminated labour statistics on the characteristics of the working population and its conditions of work and life throughout the world.”

Aim

“In order to complement the regular data collection and dissemination programmes, to make labour market information more accessible for analysis and to facilitate the comparison of the key elements of national labour markets, the ILO launched in 1999 a new programme on Key Indicators of the Labour Market (KILM). KILM was designed with two objectives in mind: a) to present a core set of labour market indicators, and b) to improve the availability of the indicators to monitor new employment trends.

The 1999 KILM included 18 indicators designed to satisfy the ever-increasing demands of governments and the social partners (workers’ and employers’ organizations) for timely, accurate and accessible information on the world’s labour markets.”

Structure

For the 2001-2002 version, the number of indicators has been extended to the following 20 for which data are presented:

1. Labour force participation rate
2. Employment-to-population ratio
3. Status in employment
4. Employment by sector
5. Part-time workers

6. Hours of work
7. Informal sector employment
8. Unemployment
9. Youth employment
10. Long-term unemployment
11. Unemployment by educational attainment
12. Time-related underemployment
13. Inactivity rate
14. Educational attainment and illiteracy
15. Manufacturing wage trends
16. Occupational wage and earning indices
17. Hourly compensation costs
18. Labour productivity and unit labour costs
19. Labour market flows
20. Poverty and income distribution

For some of the indicators, data on several elements are presented. For example, the indicator for “hours of work” (6.) has three distinct elements – the first of which refers to those employed persons who usually work a “short” number of working hours per week, the second one relates to those who usually work “excessive” hours per week and the third element relates to the average number of annual hours worked per person.

Methodological Aspects

a) Discussion about quality of data

No general discussion of the issue of quality could be found in the presentation on the internet. Yet in the text presenting the results, limitations of data quality are mentioned when relevant.

b) Data comparability at international level

Relative comparability of data across economies and regions was one of the criteria to select an indicator in the first place: “Initial indicators were chosen in a collaborative effort involving the ILO Employment Sector and the Bureau of Statistics in consultation with experts from ILO field offices, the Organisation for Economic Co-operation and Development (OECD) and several national representatives from Ministries of Labour and national Statistical Offices. The foundation for the selection of the indicators was based on the following criteria: a) conceptual relevance, b) data availability, and c) relative comparability across economies and regions. Global coverage varied by indicator, as did time coverage, sometimes resulting in ‘spotty’ and/or dated information for only a few years, particularly for some developing economies. It was obvious, therefore, that there was room for improvement in keeping with objective (b) above, i.e. widening the availability of the indicators.”

Data sources

“Initial efforts for the creation of KILM concentrated on compiling information directly from international repositories. In other words, KILM did not collect information directly from national sources, but rather took advantage of existing compilations of information held by various international organizations such as the following:

- ILO Bureau of Statistics
- Organisation for Economic Co-operation and Development (OECD)
- UN Statistics Division
- The World Bank
- United Nations Industrial Development Organization (UNIDO)
- Statistical Office of the European Union (EUROSTAT)
- United Nations Educational, Scientific and Cultural Organization (UNESCO)
- United States Bureau of Labor Statistics (BLS)“

3 Integration

After having described the systems that seemed most relevant for our project, it might be helpful to integrate them in their respective policy context.

Obviously, most of the documents referred to come from the Directorate-General Employment and Social Affairs.

Based on the Lisbon summit where the aim of creating “more and better jobs” was declared, the issue of quality of work has been one of the major topics within the field of employment in the European Union. It was explicitly outlined in the Social Policy Agenda (June 2000) and taken as a key theme for the Belgian Presidency (July-December 2001). Shortly before this Presidency, in June 2001, two documents have been prepared with the aim of developing indicators for quality of work: The Communication from the Commission “**Employment and social policies: a framework for investing in quality**” which has been prepared on behalf of Anna Diamantopoulou, the Commissioner of the DG Employment and Social Affairs. At the same time, the European Foundation for the Improvement of Living and Working Conditions (EFILWC) submitted an internal report “**Quality of Work and Employment Indicators**” which they had been asked for by the Belgian Ministry of Employment and Social Affairs in view of its forthcoming presidency.

The aspect of quality of work has been incorporated in the guidelines for Member States’ employment policies for the year 2002 (“Employment Guidelines”) as a horizontal objective which should be promoted through actions across all pillars⁵. The definition of quality of work as well as the indicators agreed on are based on the Communication from the Commission. The indicators proposed by EFILWC, however, do not seem to be reflected in any official document. Although both of these documents are subsumed under this synopsis of “work-related health monitoring schemes” it has to be pointed out that they are not strictly speaking approaches for health monitoring. Instead, for example the Communication from the Commission, includes the issue of health in the sense of “health and safety at work” as one element of the dimension “wider labour market context”, among for example gender equality, worker involvement and overall work performance. They view health against the background of work, whereas from a public health perspective, we contrariwise approach the field of work against the background of health.

To summarise this, it shall be stressed that the topic of “Quality of Work” is being located at a fairly high strategic level within the DG Employment and Social Affairs.

⁵ Pillars outlined in the Employment guidelines are I) Improving employability, II) Developing entrepreneurship and job creation, III) Encouraging adaptability of businesses and their employees and IV) Strengthening equal opportunities of women and men.

Within this DG, “health and safety at work” is moreover a constant issue of unit D/5 (“Health, safety and hygiene at work”). Community action on health and safety at work revolves around the former Article 118 of the European Treaty, which provides both the legal basis and sets out a general principle: “Member States shall pay particular attention to encouraging improvements, especially in the working environment, as regards the health and safety of workers, and shall set as their objective the harmonisation of conditions in this area, while maintaining the improvements made.” The establishment of European wide comparable data is a major element of the Commission’s strategy to evaluate the efficiency of Community legislation on Health and Safety at work. The European statistics on accidents at work and occupational diseases (**ESAW** and **EODS**) serve this purpose. Strictly spoken they would not be called “work-related health monitoring” but rather “OSH monitoring”. Data from these two sources as well as from the **European Survey on Working Conditions** (published by EFILWC) is summarised and compared to each Member State’s national data in the report “**The State of Occupational Safety and Health in the European Union**” by the European Agency for Occupational Health and Safety in Bilbao.

These four documents are, in contrast to the documents on quality of work described earlier, much less comprehensive in their approach, but instead focus much more on translating the Community legislation on Health and Safety at work into action. Also while the quality of work-documents are being placed on a very high strategic level, the latter ones are much more specific and have already been implemented for a longer time.

At a different Directorate-General, namely at DG Health and Consumer Protection, two documents are positioned: **ECHI** and the **European Health Report**.

The legal basis for public health activities within the European Union is Article 152 of the European Treaty on European Union which stipulates that “a high level of health protection shall be ensured in the definition and implementation of all Community policies and activities”, that actions shall not only aim at “improving health and prevent diseases”, but shall likewise aim at “obviating sources of danger to human health”. Among the indicators proposed by ECHI, also the issue of health and safety at work is addressed by defining indicators for accidents at work and occupational diseases. However, ECHI is still in the process of development and cannot yet be used for collecting data concerning the public health status. The European Health Report gives only very limited information about employment as one socio-economic health determinant.

Two further documents summarised in the preceding chapter are the **European Union Labour Force Survey** (LFS) and the **European Community Household Panel** (ECHP). These can best be described as providing the statistical framework for most of the indicator schemes within this context. They are prepared by Eurostat which is the Statistical Office of the European Communities. The LFS is a modern procedure for the statistical inquiry of – as the name implies

– the labour market. The scope of the ECHP is even wider and addresses statistics on income including social transfers, labour, poverty and social exclusion, housing, health and medical care, family and household types, as well as various other social indicators concerning living conditions of private households and persons.

Other documents do not originate from an organ of the European Commission. Both the “**Work and health country profiles**” and the document on “**Good practice in HESME**” were published on behalf of WHO Regional Office Europe. The Third Ministerial Conference on Environment and Health (1999) had noted a need to strengthen the information systems on safety and health at work. The country profiles could be, as it is believed, a “valuable source of information for different stakeholders inside and outside the country”. The indicators proposed by the HESME-document are supposed to complement the information at the enterprise level. In 2002, a report was published by the Finnish Institute of Occupational Health that contains descriptions and data on the state of occupational health and safety in 22 European countries.

The International Labour Organization launched its programme **KILM** (Key Indicators on the Labour Market) in order to complement the regular data collection and dissemination programmes, to make labour market information more accessible for analysis, and to facilitate the comparison of the key elements of national labour markets. By doing this, they take advantage of existing compilations of information held by various international organisations such as the United Nations Educational, Scientific and Cultural Organization (UNESCO), The World Bank, Eurostat and the Organisation for Economic Co-operation and Development (OECD).

The OECD aims with the database **OECD Health Data 2002** at furthering the knowledge of health services inputs and throughputs, highlighting differences in common medical practices, helping quantify key non-medical health-related factors and describing key features of each system’s financing and delivery mechanisms. They refer to research data, data from questionnaires and from the OECD Secretariat, but also on data exchange with other international collections such as the WHO mortality database.

As it becomes apparent, most data systems of international organisations are interconnected to a certain extend. The placing of all documents in their respective policy context (with an emphasis on the European policies) is tried to be illustrated in figure 1.

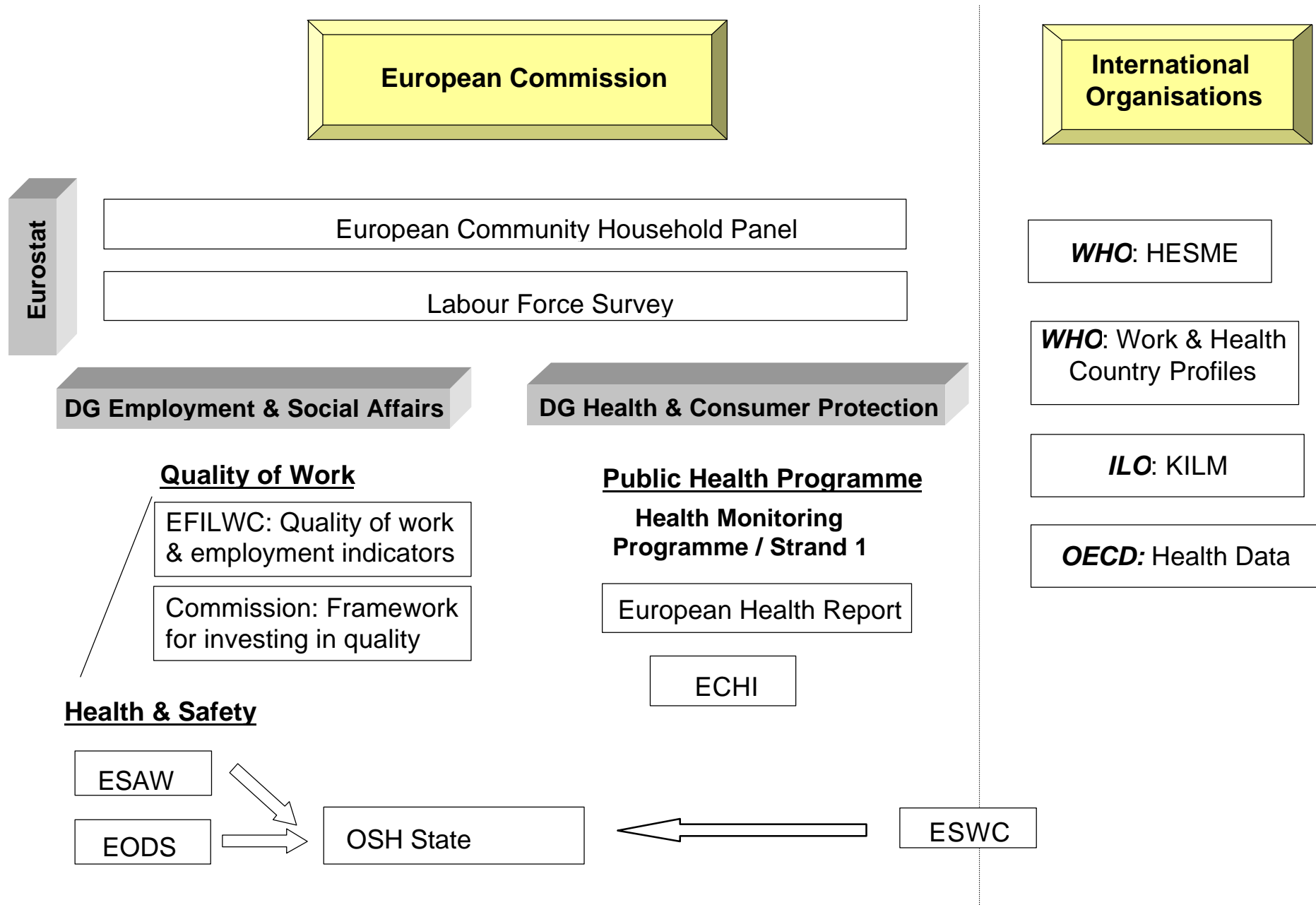


Figure 1: Work-related indicator sets and their policy context.

4 Conclusions for WORKHEALTH

4.1 Work-related health monitoring from a public health perspective: A policy cycle model

In the following, the concept of “work-related health monitoring from a public health perspective” as it shall be defined in the WORKHEALTH project is outlined. It is best described as a policy cycle model which means that health monitoring is thought to evaluate the health impact of policies and includes output and outcome indicators (see figure 2).

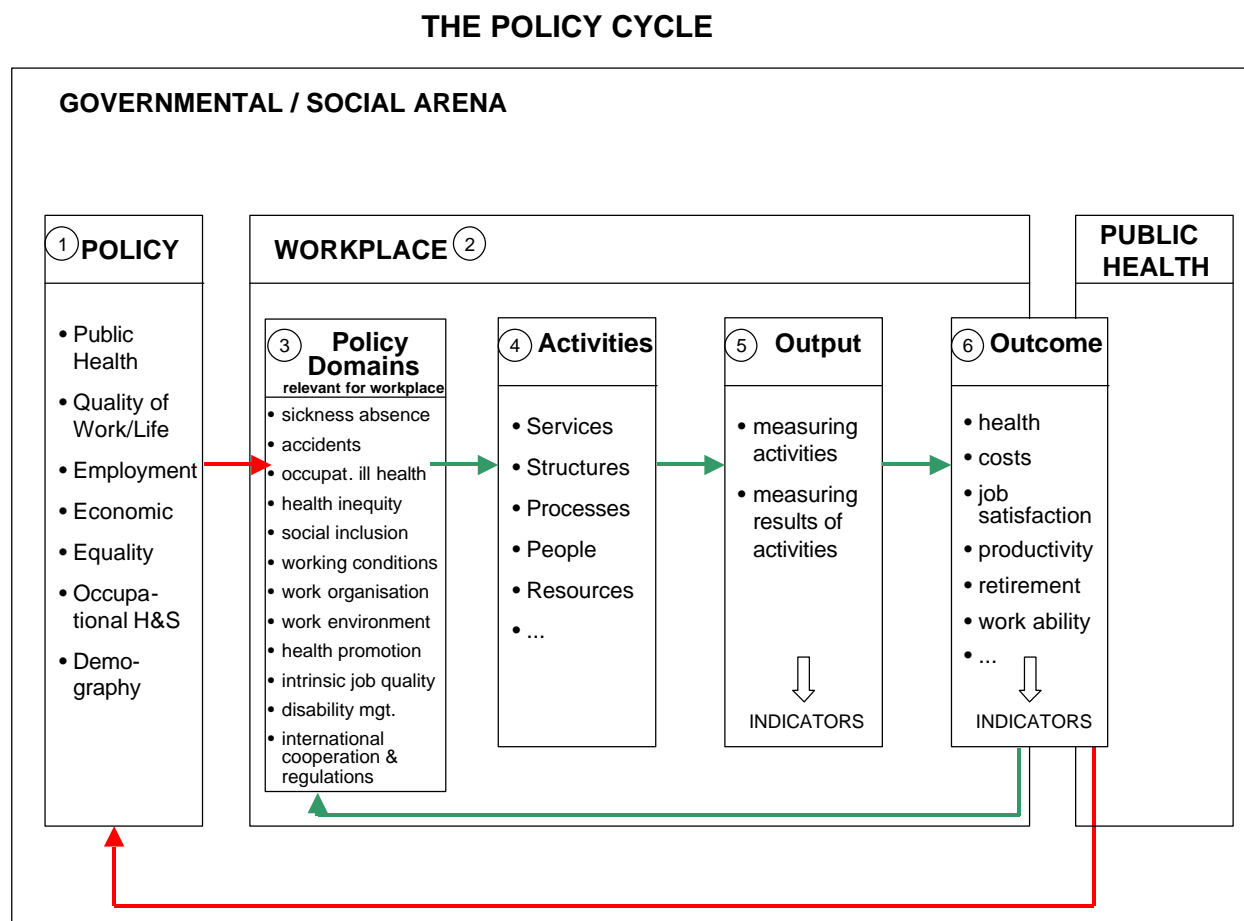


Figure 2: The policy cycle model of work-related health monitoring from a public health perspective

This model shows the field of work and health in association with the wider political environment: The governmental/social arena sets out policies (①) covering a wide range of fields, among them public health, quality of work&life, employment, economy etc. – This list is, of course, not exhaustive. The structure for the implementation of policies outside the workplace also includes labour inspectorate and social insurance institutions.

Relevant for WORKHEALTH, however, are only those policies, which have subsequently a substantial impact on the setting of the “workplace” (②) and the outcome “health”. Within the workplace setting, several stages of translating the superordinate policies into action can be distinguished, culminating in their effect on public health. This kind of action line can similarly be envisaged for other settings such as school, communities etc. (see figure 3).

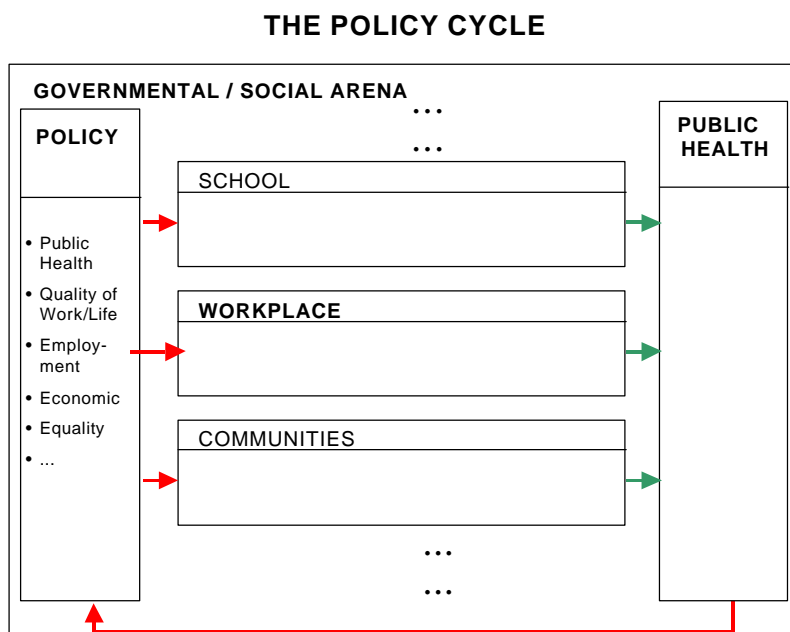


Figure 3: The policy cycle and its application to different settings.

As indicated earlier, some (aspects) of the general policy domains (③) apply to the work setting, e.g. sickness absence. A list of policies identified as relevant for the workplace are listed below. These policies cause a whole range of activities (④) at workplaces. Depending on the policy domain, these activities may be related to changing structures and processes at the worksite or providing new services and resources, training people etc. Output indicators (⑤) evaluate these activities (i.e. processes). For example, they give the number of people trained, of low noise machines acquired and the like. Additionally to the mere description of activities that have been carried out, the output indicators also assess the direct consequences of the activities (e.g. the trained employees' extend of knowledge or the resulting level of noise at the workplace) which finally have an impact on health (which is seen as a part of public health) as the ultimate outcome (⑥) of the policies.

Two feedback loops are inherent in this model establish the policy cycle: The knowledge about effects on the health outcome feeds back on workplace policies as well as on the superordinate policies.

The following two examples may illustrate the model further. Furthermore, they are intended to indicate possible critical aspects of the model.

“Preventing accidents” as a policy domain results in activities at the workplaces such as educating employees about possibilities to reduce risks or providing improved personal protective equipment. Output indicators, which by definition assess the processes (here: the activities), then record the number of people who participated in information sessions or the amount of protective equipment acquired for a company. The outcome to measure is the reduction in the number of accidents which occur in the enterprises.

The policy domain “working conditions” might deal with the aspect of noise reduction. The activities include replacing machines by low noise models and measures for sound insulation. As output indicators, to assess the activities, one can register the percentage of low noise machines used at workplaces. However, it is equally important to measure the consequence of the activities, i.e. changes in the noise level. This is not in the narrow sense an output indicator, yet it seems indeed necessary to assess these aspects, too. The measurable outcome is, for example, a reduction of noise-induced hearing loss.

An outlook on the expected WORKHEALTH indicator set is given in the annex. This also illustrates the output and outcome indicators which are envisaged so far.

4.2 Policies to be addressed by the model

Of all policies in the “social arena”, certain aspects have an important impact on the workplace setting. Policies to be addressed by WORKHEALTH are:

- sickness absence management
- prevention of accidents at work & occupational ill health
- combating health inequity
- promoting social inclusion
- improving working conditions
- improving work organisation
- improving the work environment
- fostering health promotion
- increasing effectiveness of disability management
- enhancing intrinsic job quality (job satisfaction)
- enhancing agreement on international cooperation and regulations

To illustrate what is meant by the suggested policies, the following paragraphs will describe in a more detailed way our current understanding of the respective terms. Along with each topic, an indication will be given about what is available so far and what is needed to be developed by WORKHEALTH.

◆ Sickness absence management

Sickness absence causes considerable costs to the social insurance systems and enterprises. Management of sickness absence therefore is a policy field with increasing importance. Outcome indicators like sickness absence rates are routinely available in some member states. Sickness absence has also been proposed as a morbidity indicator in general.

◆ Prevention of accidents at work & occupational ill health

Accidents at work and occupational ill health are relevant from a public health perspective. Apparently, this field has already extensively been worked on by researchers from the field of OSH. Therefore, a number of appropriate indicators like the number of accidents or occupational diseases which can be used for work-related health monitoring from a public health perspective are already existent.

◆ Combating health inequity

One major concern of the EU Commission's public health programme is the reduction of health inequalities. This general policy goal meanwhile is transferred to work-related activities on national and company level. Reliable data about differences in the employees' health status and health access between countries as well as within a country are a suitable tool. Health inequalities shall also be assessed by breaking down and analysing all relevant health statistics by gender and social status.

◆ Promoting social inclusion

The social policy agenda sets out the objective to "prevent and eradicate poverty and exclusion and promote the integration and participation of all into economic and social life". As stated there, this requires an integrated and comprehensive approach, which draws upon all relevant policies and includes a gender perspective. Obviously, also activities at the workplace, e.g. with respect to handicapped people, less skilled employees and employees in precarious working situations (teleworker etc.), should contribute to that goal.

◆ Improving working conditions⁶

Improving working conditions is a traditional goal of Occupational Health and Safety and Public Health and might be understood as a more general policy domain than accident prevention. A wide range of working conditions are already being monitored from the perspective of occupational health and safety (see, e.g., the State of OSH-report). The emphasis is here mostly on physicochemical conditions. At present, less data seem to be available regarding psychosocial factors and the need for work on this was expressed by the project partners. In line with this, it had been stated in the context of the OSH State report (see 2.2.1) that much less information is

⁶ see next page

available for exposure categories like stress etc. compared to more historic health and safety topics.

However, as the scope of occupational health and safety as recently been broadened (see above), social aspects might be increasingly be covered by OSH monitoring in the near future. The European Survey on working conditions (2000), covers the following psychosocial factors: violence, harassment (intimidation and sexual harassment), discrimination (by gender, ethnic, age, nationality, disability and sexual orientation) and gender segregation.

It is the task of WORKHEALTH to examine where indicators are still needed and to develop new indicators accordingly.

◆ **Improving work organisation**⁷

This refers to, e.g., the organisational culture including leadership, working together with colleagues, work organisation, working atmosphere, but also aspects of working time arrangements like shift-work, part-time employment etc. As some aspects of work organisation are well known to have negative influences on health and economic success, improving work organisation is a policy domain for health monitoring.

The European Survey (2000) already gives substantial information about some of these aspects, e.g., about repetitive work, job control, pace of work, and job content. It will be reflected which other subjects might be relevant within this context from a public health perspective and which therefore have to be supplemented or amended by WORKHEALTH.

◆ **Improving the work environment**⁸

From a public health policy perspective, the relevant working environment should be viewed in a much broader sense than only the working conditions which are mostly directly related to carrying out the respective task, as this, too, can have positive or negative influences on the health of employees.

Aspects of the work environment which might be taken into account are, for example:

- food provided at the canteen and in vending machines
- recreational facilities
- regulations for breaks
- commuting
- ...

This list is not yet complete and shall only give an indication about which subjects might be addressed under this heading. With regard to the indicator sets compiled in the previous chapter, these aspects are – to a large extend – not yet covered.

⁶⁻⁸ The term „working conditions“ as it is used here as well as, for example, the terms „work organisation“ and „work environment“ are working terms. These may be used differently in different institutions and countries. They shall be clarified further and their usage adapted if necessary in the course of the project.

◆ **Fostering health promotion**

This policy covers instruments for fostering the implementation of health promotion. Examples are

- establishment of networks like the “European Network for Worksite Health Promotion”,
- information campaigns, and
- bonus systems for the implementation of worksite health promotion programmes.

The emphasis is here on regulations or guidelines for implementing health promotion programmes. In contrast, the actual carrying out of such programmes is seen as an output for other policies, such as “Improving working conditions”.

The project EUHPID (“European Union health promotion indicators development project”) aims at establishing a European Health Promotion Monitoring System, including a set of common health promotion indicators. It remains to be seen to what extent indicators from EUHPID might be adopted by WORKHEALTH.

By establishing indicators to assess health promotion programmes the opportunity to evaluate the policy impact as well as the (cost) effectiveness of these programmes is provided.

◆ **Enhancing intrinsic job quality**

Intrinsic job quality is an important aspect of quality of work, as defined by the European Commission. The key policy objective is to ensure that jobs are intrinsically satisfying, compatible with persons’ skills and objectives, and provide appropriate levels of income. Job satisfaction is regarded as one possible indicator (others are proportion of workers advancing to higher paid employment over time and low wage earners, working poor and the distribution of income).

Job satisfaction is already being approached by the European Survey (the question was changed, however, from “Are you satisfied with your job?” in 1995 to “Are you satisfied with the working conditions in your job?” in 2000).

◆ **Increasing effectiveness of disability management**

To increase the effectiveness of disability management it seems necessary to strengthen the links between enterprises, social insurance and occupational health and safety as well as enhancing the transparency and offering better consultancy to reduce barriers.

Indicators for disability management might refer, for example, to the existence of work places with lesser demands for workers who are not yet fully recovered, as more suitable workplaces lead to a better reintegration. Also the percentage of early retirement gives an indication about the success of rehabilitation.

◆ **Agreement on international cooperation and regulations**

This policy field covers the existence of and the compliance with appropriate legislation and regulations in the field of health at work. A possible indicator for this field is, e.g., the

ratification of ILO OH&S conventions (% of conventions) which is also part of the Work and Health Country Profiles (2001).

4.3 Aim and scope of work-related health monitoring from a public health perspective

As stressed in the general, more recent understanding, public health covers all analytical and organisational efforts which are aimed at the improvement of health. Obviously, from a public health perspective, health monitoring may therefore not only aim at describing the status quo as an end in itself. The **aim** of work-related health monitoring has therefore rather to be to provide the necessary data basis for improving the health status of employed people and to evaluate the health impact of policies. This may, for example, be fulfilled by providing feedback information to improve relevant policies or by benchmarking the health status in the Member States and in doing so stimulating efforts for improvement. On the other hand, work-related health monitoring should, from a public health perspective, provide insight in the associations between work and health and thereby provide the knowledge necessary for altering the influencing factors and ultimately improving the health status.

Beyond defining the framework of work-related health monitoring from a public health perspective, it is necessary to integrate this concept into other, already existing monitoring systems. This question about the **scope** of work-related health monitoring from a public health perspective is especially interesting with regard to the various indicator sets which already exist in the field of monitoring occupational health and safety. We propose an approach for integrating work-related HM from a public health perspective into other monitoring schemes as it is illustrated in figure 4.

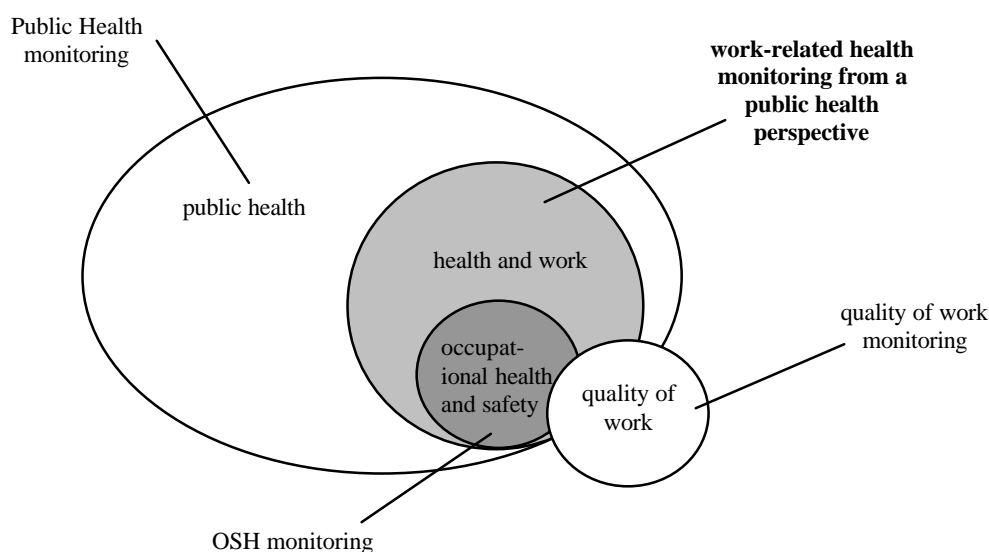


Figure 4: Scope of work-related health monitoring from a public health perspective.

According to this illustration, OSH monitoring would be seen as one aspect of work-related health monitoring from a public health perspective: It deals with a specific part of the population (employed persons) and with the prevention of specific (occupational) diseases (and work accidents). However, this would also be within the scope of work-related health monitoring as it is understood in the WORKHEALTH project.

There is also some overlap with indicators suggested by the quality of work-concept: This includes, for example, the indicator for accidents at work, which is integrated in the quality of work-concept. Also the aspect of job satisfaction which is covered by quality of work might be relevant to address from a public health perspective.

Addressing the issue of work-related health in such an integrated way by linking public health to other policy areas (especially OSH policy) again meets the demand for an intersectoral health strategy, which has been expressed in the Commission's new public health programme.

4.4 Key questions to be addressed by WORKHEALTH

Besides defining a general concept of work-related health monitoring from a public health perspective, there are some specific issues for the WORKHEALTH project which have to be raised. These are listed below. Some questions will have to be answered quite soon, while the answers for others will evolve during the further course of the project.

⇒ Which population is covered?

As defined above, public health aims at the improvement of the health of populations or defined parts of populations. This leaves it open to us whether WORKHEALTH should cover the whole labour force (thus including the unemployed) or only employed persons. The issue of self-employed people has to be discussed.

⇒ What is our understanding of “work”?

Closely related to the question of the population covered is the question of our understanding of work, as these aspects, to a certain degree, determine each other. Our understanding of “work” might on the one hand only include paid employment. On the other hand, the understanding might be much broader and might include activities like keeping a household, raising children, looking after relatives who are in need for care or voluntary activities. Such a broad definition would of course affect the population covered, as it would then go far beyond the population of employed people only.

⇒ Who are the addressees for work-related health monitoring?

The potential addressees of work-related health monitoring from a public health perspective are numerous and include politicians, researchers and practitioners. Special attention within the

WORKHEALTH project is being paid to the following addressees: social insurance institutions – for them it might be especially interesting, e.g., to see the (economic) potential of the workplace as a setting for prevention of diseases; labour inspectorates; persons working in the field of public health and those working in the field of occupational health and safety. In the new Community strategy on health and safety at work, stronger links with the Community's strategy on public health are explicitly being asked for. Taking into account addressees from different policy areas also meets the requirements of an intersectoral health strategy as pointed out in the Community's current public health programme.

The needs and demands of each of these groups will be addressed in the respective satellite workshops.

⇒ **How to address problems of international comparability of data?**

As it has already become apparent at the meeting in Berlin, the issue of data comparability will be a major challenge and cornerstone of the WORKHEALTH project. There have been first suggestions saying that relying on survey data rather than on administrative data might be one way to address this problem. However, this issue will have to be elaborated in a systematic way.

⇒ **What are the criteria for selecting indicators?**

As pointed out above, policy orientation and the possibility of comparing data on the international level will be two important aspects for the selection of indicators. Availability of data should also be considered to allow a direct benefit of the project. Yet the identification of indicators shall not, in the first place, be restricted to those indicators for which data are already available. From a methodological point of view, it is necessary that indicators are – as far as possible – reliable, valid, objective, sensitive and specific. Also these methodological aspects will have to be elaborated systematically during the course of the project.

⇒ **How to address the issue of “health inequalities”?**

A major concern of the EU Commission's public health programme is the reduction of health inequalities. Therefore they ask for always paying special attention to inequalities in health. Reliable data about differences in the employees' health status related to income, branches, sectors, gender, age, countries, size of enterprise etc. are one step towards this aim. Health inequalities might be assessed by breaking down and analysing all relevant statistics by socio-demographic criteria.

It might also be interesting to reflect about opportunities to reduce health inequalities by means of health promotion programmes at the workplace.

⇒ How to address the issues of “gender” and “age”?

Closely related to the issue of health inequalities is the demand of the Commission for “age- and gender-specific information on human health”. Beyond breaking down and analysing all relevant statistics by gender and age, these issues have to be approached.

⇒ Relevant structural aspects to characterise the workforce?

It will require some effort to determine the relevant structural aspects by which the workforce should be characterised and therefore data should be broken down (additionally to age and gender aspects). How can data be broken down by branches and professions? Which level of data presentation can be realised in different member states?

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