WHO has initiated the development of the methods for defining global burden of disease. The objective is to find gaps in information and knowledge and to develop further the methodology and improve the data collection so that it will better meet the information requirements for preventive actions. The method includes the assessment of exposures, evaluation of exposure-outcome association and calculation of the population attributable fraction (PAF). The effort recognizes the uncertainties in exposure assessment and wide variation in the outcome definitions and registration practices between the countries. The development work aims at better possibilities to prioritize activities and target selected measures in a cost-effective way.

### WHO comparative risk analysis of the contribution of occupational risk factors to the global burden of disease

Marilyn Fingerhut, WHO (fingerhutm@who.int); Marisol Concha, ACHS, Chile (gsamcb@gw.achs.cl); Laura Purnett, University of Massachusetts at Lowell, USA; Kyle Steenland, NIOSH, USA; Tim Driscoll, formerly NOHSC, Australia

Keywords: global burden of disease, risk assessment, DALYs, attributable fraction

The objective of this projects was to estimate the contribution of selected occupational risk factors to the overall global burden of disease, using standard WHO methodology. The project has been completed. Comments were received from many CCs on the six comparative risk assessment analyses of occupational health risk factors. The Finnish Institute of Occupational Health, NIOSH, and the ILO were particularly helpful.

This effort by researchers at WHO/HQ and Collaborating Centres was published in summary in October 2002 in the WHO World Health Report. The full scientific papers will be contained in a WHO book in 2003 and articles will be submitted for publication in a peer-reviewed occupational health journal.

The global attributable fractions for mortality and morbidity due to selected occupational exposures are listed below:

<table>
<thead>
<tr>
<th>Occupational Risk Factor</th>
<th>Attributable Fraction (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low back pain</td>
<td>37</td>
</tr>
<tr>
<td>Hearing Loss</td>
<td>16</td>
</tr>
<tr>
<td>COPD</td>
<td>13</td>
</tr>
<tr>
<td>Asthma</td>
<td>11</td>
</tr>
<tr>
<td>Unintentional injuries</td>
<td>10</td>
</tr>
<tr>
<td>Lung cancer</td>
<td>9</td>
</tr>
<tr>
<td>Leukemia</td>
<td>2</td>
</tr>
</tbody>
</table>

Many important outcomes could not be included in the WHO study due to the absence of adequate global data, for example, infectious disease, coronary heart disease, reproductive disorders, intentional injuries, musculo-skeletal disorders of the upper extremities, and most cancers.

### National surveillance of incidence of occupational and work related disease by samples

M Giraldo, Division of Occupational Safety and Health, Ministry of Health, Colombia (mgiraldo@minproteccionsocial.gov.co)

There is a sub registry and sub diagnostic for occupational disease in the Columbian health system. The project will lead a detailed follow up model for the identified cases (diagnostics). At the moment it is in the process of consolidation and analysis of cases diagnosed in 2001. Complementarily, a national surveillance model has been proposed to follow up the occupational diseases, to identify some particular cases, to make them become an obligatory report. Funding is needed. The project will be completed between 2002-2005.

### International Surveillance of Seafarers´ Health and Working Environment

Olaf Jensen, Research Unit of Maritime Medicine, University of Southern Denmark (ocj@fmm.sdu.dk)

Keywords: seafarers, injury, exposures, survey, self-report

Target groups: seafarers, ship owners, their organisations, seamen's doctors, national maritime authorities, international organisations as IMO, ILO and ITF.
The purpose of the project is: 1) to describe the working, living and health conditions of seafarers and the injury incidences and related determinants in an international context 2) to raise awareness among seafarers, ship owners and their organisations about possible deficiencies in standards of occupational conditions. 3) To achieve equal international standards for safety, work and living conditions for all seafarers.

The project has been developed since 1998. It is a surveillance system by use of self-completed questionnaires filled out by the seafarers before or after the health examination (health examinations are mandatory for all seafarers) The anonymous questionnaires contain the same questions for all, translated to the seafarers’ languages.

Pilot studies (1999-2000) in 5 countries have shown that the method can work in practice. The next questionnaire study was carried out in 2001 among 11 countries with 6,593 questionnaires in total. The theme part of this questionnaire round was safety on board: self-perceived safety, knowledge of safety representative, exposure to chemical substances, the use of safety equipment against chemical exposures and self-perceived health was examined. As permanent part of the questionnaire, injuries during the latest tour of duty were examined. The results remain to be analysed and published. The main part of the project was financed through support from The ITF Seafarers’ Trust. Two new rounds of data collection are planned for 2003-2006 and an application for financial support has been submitted to the ITF.

Other centres collaborating on the project are the Institute of Maritime and Tropical Medicine, Poland; Instituto Social de la Marine, Sociedad Española de Medicina Maritima Spain; Seafarers International Research Centre, Cardiff University; Ukrainian Research Institute of Maritime Medicine; Croatian Institute of Occupational Health, University of Rijeka; Semashko Seamen’s Hospital, Arkhangelsk; Department of Occupational Health, Fudan University, Shanghai; Klinik Rajawali Lestari Kondominium, Jakarta, Indonesia; Arguelles Medical Clinic Inc., Manila, Philippines, Drs. Stoner, Morton, Greeff & Rosendorff, Cape Town, South Africa.

The following products have been realized:
- 2 papers submitted for publication and other papers are under preparation.

Other contributors are Harry Caussy, SEARO (CAUSSYD@whosea.org); ILO and PAHO.

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**National surveillance of the incidence of occupational diseases in the Czech Republic**

Pavel Urban, Center of Industrial Hygiene and Occupational Diseases, National Institute of Public Health, Prague, Czech Republic (pavel.urban@szu.cz)

*Keywords:* occupational diseases, incidence, burden of disease

*Target group:* experts, planners, managers, and decision-makers in occupational health, trade unions

The objective of the project is to gather in a standardized manner the information on the incidence of occupational diseases in the Czech Republic and to share the data with WHO/HQ and ILO for the purpose of the global burden of disease assessment.

The Czech National Registry of Occupational Diseases has been operating since 1991 as a comprehensive nationwide information system covering all cases of acknowledged occupational diseases. About 20 pieces of information are collected on each case, such as patient’s identification data, his or her age, gender, address, occupation, duration of exposure, diagnosis, item in the List of occupational diseases, information on the workplace where the exposure to an occupational hazard occurred, and others. The quality and completeness of the data stored in the Registry are continually checked by trained personnel.

As an output of the project, yearly reports on the incidence and structure of occupational diseases are passed on to WHO/HQ and ILO.  This project involves a long-term commitment.

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**National surveillance of incidence of occupational and work-related disease by samples - Strengthening of the health sector and other systems in diagnostic capacities and the identification of work-related illnesses**

Juan Carlos Llano (jlano@minproteccionsocial.gov.co) y Ana Pilar Pereira (apereira@minproteccionsocial.gov.co), Ministry for Social Protection, Colombia

- Diagnostic of work-related illnesses in 2001-2002
- Massive campaigns to generate more knowledge about work-related illnesses
Strategies for increasing capacities for health workers in the 5 major cities of the country
Decree to facilitate compensation of professional health risks by health insurances
Campaign for the prevention of carpal tunnel syndrom
Establish financial plan to estimate the implication of including the diagnosis of professional illnesses

National surveillance of incidence of occupational and work-related disease by samples - Fortalecimiento del sector salud y demás actores del sistema en la capacidad diagnóstica y de identificación de enfermedades profesionales

- Diagnóstico de situación de EP en el 2001 y 2002
- Campañas de difusión masiva de para generar un mayor conocimiento del tema de enfermedad profesional
- Estrategias de capacitación para personal de la salud en las 5 principales ciudades del país
- Decreto que favorezca el recobro entre en aseguradoras de salud y riesgos profesionales.
- Campaña preventiva del Síndrome del Tunel de Carpo
- Estudio actuarial que permite dimensionar financieramente que implicaciones tiene para el sistema el incremento en el diagnóstico de EP.

Financiamiento: requerido

National surveillance of the incidence of occupational diseases in the Czech Republic

Pavel Urban, Center of Industrial Hygiene and Occupational Diseases, National Institute of Public Health, Prague, Czech Republic (pavel.urban@szu.cz)

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As an output of the project, yearly reports on the incidence and structure of occupational diseases are passed on to WHO/HQ and ILO.

The project is funded by the Czech Ministry of Health, and is intended to be a long-term commitment.

National surveillance of incidence of occupational and work-related diseases by samples

Dick Spreeuwers, Coronel Institute/Netherlands Centres of Occupational Diseases, The Netherlands (d.spreeuwers@amc.uva.nl)

Funding is in place, except for a study socio-economic consequences of occupational and work-related diseases.

The scheduled completion date is beginning of 2004.

Surveillance of incidence of occupational and work-related diseases in Serbia and Montenegro by samples

Bogoljub Perunicic, Institute of Occupational and Radiological Health, Serbia and Montenegro (perunb@Eunet.yu)

Funding is needed. The project is scheduled to be completed by December 2004.
Preparation of a guideline for calculating the burden of disease at the national level
WHO/HQ

Documents are in preparation for occupational lung diseases, carcinogens, injuries and hearing loss. The task is to be finalised by 2004.

Piloting the guideline for calculating the burden of disease in Bulgaria
Emilia Ivanovich, National Centres of Hygiene, Medical Ecology and Nutrition, Bulgaria (e.ivanovich@nchmen.government.bg)

*Keywords*: global burden, diseases, occupational diseases

*Target group*: decision-makers, planners and managers, occupational health staff in Departments of Health, Departments of Labour, and Trade Unions

The objective of this project is to raise awareness among decision-makers in Departments of Health, Departments of Labour, Trade Unions of the necessity of strengthening of Occupational health policy at all levels and investing in preventive measures and improving the working conditions. The aim is to find gaps in information and existing knowledge, to develop further the methodology and improve the data collection so that it will better meet the information requirements for preventive actions. The methodology has been adopted. The guidelines will be piloted by 2005.

Morbidity profile of occupational diseases in Colombia, Chile and Argentina
Julietta Rodríguez Guzmán, FISO, Colombia (jrodriguezg@fiso-web.org)

The objective is to participate in the preparation of a guideline for calculating the burden of occupational disease at the national level. Pilot test the WHO global burden guidelines in Colombia, Chile and Argentina. Funds are being searched. The scheduled completion date is December 2003.

Pilot to evaluate the burden of occupational disease in selected enterprises
Nguyen Ngoc Nga, National Institute of Occupational and Environmental Health, WHO Collaborating Center on Occupational Health, Vietnam (n.n nga@fpt.vn)

*Keywords*: burden of disease, costs, cost benefit

*Target groups*: policy-makers, managers, occupational health staff, local authorities, employers, MOH, MOLISA

The objective of this project is to put the guideline of WHO'STC into practice to build the capacity for an occupational health network in Vietnam through a pilot research on the burden of occupational diseases; and to raise awareness among employers, managers, policy-makers, MOH, MOLISA of the existing risks for workers, the magnitude of the problem and necessity of preventive measures. Fund has been secured by WHO.

Assessing the burden of diseases and injuries and economic losses due to occupational factors in Vietnam
Nguyen Thi Hong Tu, Ministry of Health, Viet Nam (hongtu@netnam.vn)

*Keywords*: burden of disease, injury, economic loss, occupational disease

*Target group*: decision-makers at Ministries, academic institutions, medical university, trade union, employers’ organization, and employees’ organization

The purpose is to develop simple analysis and calculation models of burden of diseases and injuries and economic losses due to occupational factors that can be used in workplaces.

The project is in place and funds have been secured by WHO, Vietnam Government.

Global burden of disease, Design and Chilean profile
Marisol Concha, Asociación Chilena de Seguridad (ACHS), Chile (gsamcb@gw.achs.cl)

Funds will be provided by the host country. The scheduled completion date is December 2003.

Piloting the guideline
Jorma Rantanen (jorma.rantanen@occuphealth.fi) and Kirsti Tuominen (Kirsti.Tuominen@ttl.fi), Finnish Institute of Occupational Health, Finland
Funding is in place.

**Piloting the guideline**

Takesumi Yoshimura, University of Occupational and Environmental Health, Kitakyushu, Japan (yoshitk@med.uoeh-u.ac.jp)

Funding is needed.

For cross references see also:

TF14 : Cost Effectiveness of Silicosis Prevention Initiatives
TF15 : Morbidity profile of occupational diseases in Colombia, Chile and Argentina