Fourth Network Meeting of the WHO Collaborating Centres in Occupational Health
7-9 June 1999
Espoo, Finland
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Summary Report

Introduction

1. At the Third Meeting of the Network of Collaborating Centres, held in Bogota, Colombia in April 1997 it was agreed that a Fourth Meeting would be held in Helsinki, Finland. At this meeting there were a total of 38 Collaborating Centres in Occupational Health. (The agenda of the Meeting is attached as Annex 1 and the List of Participants as Annex 2 to this Report).

2. Dr. Jarkko Eskola, Director General of the Ministry of Social Affairs and Health, opened the meeting on behalf of the Government of Finland and cordially welcomed all the participants. He stressed the important role that the Network of Collaborating Centres in Occupational Health had played in the overall development of occupational health worldwide. He expressed the appreciation of the Government of Finland for the renewed and improved situation in the World Health Organization concerning the status and resources of the Occupational Health Programme.

3. The Meeting was addressed by Dr. Richard Helmer, Director, Department of Protection of the Human Environment, World Health Organization, on behalf of the Director General of WHO. He thanked the Finnish Institute of Occupational Health (FIOH) for the preparatory work and arrangements made for this Fourth Meeting of the Network. In conjunction with the Network of 52 Collaborating Centres the FIOH had provided the backbone to the occupational health activities at WHO while the Organization was going through a period of reorganization. Dr. Helmer expressed admiration for the results achieved since the Third meeting, and conveyed appreciation for the dedication and solidarity of the Collaborating Centres. These Centres carried the burden of implementing the Global Strategy on Occupational Health for All which had been approved by the Network at the Second Meeting in Beijing and then adopted by the World Health Assembly in 1996.

Dr. Helmer also conveyed thanks to the NGOs officially related to WHO, namely: the International Commission on Occupational Health (ICOH), International Ergonomics Association (IEA) and the International Occupational Hygiene Association (IOHA) that were represented at the meeting. The support of the International Labour Organization (ILO) and the European Commission (EC), as well as several government institutions, was also highlighted. It was noted with appreciation that the agenda of the Network covered all ten objectives of the Global Strategy, ranging from occupational toxicology to healthy workplace setting and workplace health
promotion. The WHO fact sheet on occupational health, updated and reissued just prior to the meeting, was referred to as giving the latest estimates of the global burden of disease due to occupational and workplace risk factors (attached as Annex 3). It was announced that another fact sheet on stress at work was being prepared. Emphasis was placed on risk management at the workplace as the logical follow-up to risk assessment and surveys of occupational hazards.

The participation of most of the WHO Regional Advisers on Occupational Health was highlighted as a new opportunity for dialogue at the global, regional and country levels on known, as well as emerging, issues. This dialogue would take place across professions, institutions and all aspects of the occupational health spectrum. In conclusion, Dr. Helmer invited all participants to join in ‘Making a difference’ in response to the plea by the Director General of WHO. He wished the Group a most productive and enjoyable meeting.

4. Professor Jorma Rantanen, on behalf of the Local Organizers, welcomed all participants to the Fourth Meeting. He also pointed to the new challenges and opportunities that the strengthening of the Occupational Health Programme within WHO would offer, and encouraged the Network to continue its valuable work.

5. Professor Jorma Rantanen was elected Chair, Professor Marco Maroni Vice-Chair and Ms. Suvi Lehtinen Rapporteur of the Meeting.

Global trends and occupational health

6. Dr. Richard Helmer pointed out the need for further development and resourcing of the field of occupational health in the Organization, and was pleased to relate that this had the full support of Dr. Gro Harlem Brundtland, Director General of WHO. He informed the meeting about the new policy objectives for the global health work and new organizational strategies of WHO. He also stated that occupational health had been given a distinct and higher priority in the WHO strategy and emphasized the importance of the Network of Collaborating Centres in the implementation of the Global Strategy on Occupational Health for All.

7. Professor Jorma Rantanen gave a presentation on the new trends of occupational health and safety in the globalizing competitive world. He emphasized the deep impact of globalization on employment, enterprise structures, organization of work and possibilities to deal with health and safety problems such as the follow-up of workers’ health, risk assessment and preventive actions. He felt it was likely that new models for occupational health and safety infrastructures would be needed.
8. The progress of the Global Programme on Elimination of Silicosis was described by Dr. Shengli Niu of the ILO. He introduced the topic by reminding the participants of the decision made by the Joint ILO/WHO Committee on Occupational Health in 1995. He emphasized the need for concerted actions of both International Organizations and the Network of the Collaborating Centres.

9. Dr. Carlos Corvalan presented the future perspectives of global occupational health as discussed by the Informal Consultation on Occupational Health in Geneva on 29–30 March 1999. He analysed the relevant future actions for the implementation of each of the 10 objectives of the Global Strategy. In discussion of such actions, the need for prioritization was emphasized in order to make a practical impact in a reasonable timescale. Proposed actions by the Brainstorming Meeting were sent for analysis and discussions in the Working Groups of the present meeting. In addition to the 10 objective efforts for producing strong evidence on the burden of diseases, economic appraisal and visibility of the WHO Occupational Health Programme were emphasized.

10. The role, functions and organization of the WHO Collaborating Centres was under review and would be decided in the near future by the Director General.

11. Poster Session I described the results of the Collaborating centres in implementing the assignments of the Global Strategy. A total of 25 reports from the Collaborating Centres were provided to the Organizers and they were distributed to all participants. In addition to this 10 poster presentations describing the achievements of the Collaborating centres were displayed during the Meeting.

**Future activities of the Network**

12. In January 1999, the Planning Committee decided that four pilot core guidelines would be prepared in order to give simple, easy-to-understand instructions to the grass-roots level actors in various fields of occupational health and safety. The topics of the four pilot core guidelines were pesticides, introduced by Prof. Marco Maroni, the plan for chemical safety guidelines, presented by Dr. Antero Aitio of the IPCS, the guideline on economic appraisal of occupational health and safety, introduced by Prof. Frank Pot and Prof. Steven Markowitz, and finally the guideline on stress at work, introduced by Prof. Tom Cox.

It could be seen that a clear plan and outline for each of the four guidelines was available. The guidelines would be further developed on the basis of discussions at the Fourth Network meeting, and the progress would be followed up by the Planning Committee.
13. A comprehensive work plan would be needed in order to translate into practice the results of the Informal Consultation on Occupational Health, to implement the Global Strategy on Occupational Health for All, and to identify the needs and priorities of the Collaborating Centres. Five working groups discussed various topics: strategic priorities for the implementation of the Global Strategy, development of information and registration systems, emerging issues in occupational health, concrete proposals for the implementation of the Global Strategy on Occupational Health for All for the next two years, and management of health, environment and safety in industry and other workplaces. The working group reports have been integrated into this Summary Report.

14. On the basis of the Informal Consultation, the results of the Working Group reports of this Meeting, and the discussions during the meeting, a comprehensive work plan for the next two years was prepared (Annex 4).

15. Dr. Maritza Tennessee, PAHO, reported on the regional planning and follow-up meetings of PAHO. PAHO had prepared an extensive programme for the development of occupational health. The priorities and ideas of the programme were integrated into the further development of the Network Work Plan for 1999–2001.

16. According to the principle agreed upon earlier for the Network Meetings, a Scientific Day was organized. The theme of the scientific meeting was Stress at Work. Seven keynote speakers in total made their presentations on the State-of-the Art on stress research. The presentations would be published later as Proceedings.

17. The Fifth Network Meeting would be held in 2001 in Thailand by kind invitation of Dr. Wilawan Juengprasert. The scientific theme for the next Network Meeting was proposed as ‘Information, Surveillance and Registration Systems for Work-related Diseases and Injuries’. The Planning Committee was encouraged to take this into consideration in the planning of the Fifth Network Meeting.

18. The new members of the Planning Committee were elected as follows:

Professor Marco Maroni, Chair, ICPS, Italy
Professor Tom Cox, Nottingham University, UK
Professor Fengsheng He, Beijing, China
Professor Jean-Marie Mur, INRS, France
Professor Jorma Rantanen, FIOH, Finland
Dr. Linda Rosenstock, NIOSH, USA
Representatives of WHO/OEH, WHO regions, ILO, the EU, and ICOH, IOHA, and IEA
Dr. Carlos Corvalan, WHO Secretariat
Conclusions and recommendations of the IV Network Meeting

Substantive content of the Network Programme of Work

1. In the discussion on priorities, it was stated that the countries of the world are in different phases of development. That means different priorities in different points of time. The global occupational health and safety priorities for the Network were agreed upon as follows: elimination of silicosis and other pneumoconiosis, prevention of musculoskeletal disorders, and prevention of stress at work. The small-scale enterprises will form the core of employment opportunities in the future. Therefore, they will need special attention and support in solving occupational health and safety problems.

WHO should launch global programmes on the areas of elimination of silicosis and other pneumoconiosis, prevention of musculoskeletal disorders, prevention of stress at work, and of improving occupational health and safety in small-scale enterprises. The WHO Regional Offices should integrate these priorities into their programmes of work, and the Members of the Network of the Collaborating Centres in Occupational Health is encouraged to implement the programmes at the national level. The ultimate goal should be the concrete changes in working conditions and improvements in workers' health.

2. The world of work is changing rapidly, the globalizing economies posing increasing time pressures to the workers and the introduction of new technologies increasing the demands to workers for continuous learning and competence building. The emphasis of the problems of occupational health and safety will increasingly be on psychosocial and social problems of the workplaces and societies. This does not, however, diminish the need for traditional occupational health and safety measures at workplaces and prevention of occupational accidents and injuries still remains to be actual.

In addition to continuous efforts for prevention and control of occupational accidents and diseases, new problems of stress at work should be given due concern. Special attention should also be paid to the need for changing the work organizations and developing the work cultures to support the work ability of the workers. The experiences from countries which have carried out such organizational research should be collected and reported.

3. The economic appraisal in occupational health was discussed and it was concluded that the cost-effectiveness of the activities made and measures taken for occupational health is of utmost importance. However, it was also stated that the economic profitability of occupational health and safety measures cannot be used as the only argument because in some cases for ensuring workers' health we may need to take measures which in the short term may not show positive impact on the economy. It was emphasized that while a valuable approach, the results of the economic appraisal are very much dependent on the approach, methodology and criteria used and thus the results should be interpreted with caution.
It was agreed that a working group be established within the Network to prepare a draft for core guideline for economic appraisal. Ethical aspects should always be considered when valuations of the results of economic assessments are made.

4. Several tasks were proposed for the Network during the discussions of the Fourth Network Meeting. The more detailed plan is attached as Annex 8 to this Summary Report.

*It was agreed that the tasks accepted for the Work Plan should be implemented during the time limits indicated, and the results be monitored and evaluated in the Fifth Network Meeting. All the Collaborating Centres were encouraged to participate in the tasks in collaboration with the co-ordinating body.*

**Increasing awareness and providing information support**

5. It was emphasized that in order to ensure the smooth development of occupational health and safety at the national level the relevant ILO Conventions and WHO guidelines can be utilized. It was also agreed that the commitment and support of the governments is of utmost importance for the development of workers’ health in the Member Countries.

*A National Programme on Occupational Health and Safety, based on respective legislation and international instruments and guidelines, should be prepared by each country to guide the national development in occupational health and safety. The support of the governments should be sought for the institutes of occupational health in the countries in order to facilitate their acting as centres of excellence in occupational health and safety. This will also facilitate for the Collaborating Centres’ ability to contribute to the WHO programmes.*

6. In order to prepare a National Programme on Occupational Health and Safety, more information is needed for decision-makers about the importance of occupational health from the human rights and ethical point of view. Also more information on the economic burden of occupational accidents and diseases to the decision-makers should be given. More awareness aroused among the decision-makers and public at large is needed to improve the priority position of occupational health.

*A global information campaign should be launched, based on scientific evidence about the positive impact of occupational health and good work ability. With the provision of data WHO/OEH and the Network of Collaborating Centres can support the individual information activities in various countries.*
7. Pilot guidelines on the prevention of pesticide hazards, economic appraisal, stress at work and development of work organizations, and prevention of chemical hazards, were discussed on the introduction of respective coordinators. A fifth pilot guideline on “prevention of musculoskeletal disorders” was added, to be coordinated by Prof. Barbara Griefahn.

*It was decided to continue the preparation of pilot core guidelines in the following way. The Co-ordinators will assume the responsibility for keeping the procedure in progress. The aim is to prepare a brief guideline for each selected topic (pesticides, economic appraisal, stress at work and development of work organizations, chemicals and musculoskeletal disorders) which will be sent by WHO for comments to all Collaborating Centres but also to other organizations, according to the specific topics. When the comments have been compiled, the Co-ordinator will in collaboration with WHO finalize the guidelines. Thereafter, the guidelines will be distributed as widely and as effectively as possible.*

**Organization of OH&S in WHO and the Network**

8. The whole system of WHO Collaborating Centres is under review. A few new applications for designation as a Collaborating Centre in Occupational Health are underway. The decision has been suspended, as the decision on the Collaborating Centre system has not yet been made.

*It was recommended by the Meeting that the prominent national institutions which are in the process of designation as Collaborating Centres in Occupational Health be designated as soon as possible. In the meanwhile, the Network welcomed the active participation in the implementation of the Global Strategy of the applicant institutions.*

9. WHO headquarters has recently provided a more visible status and additional resources to Occupational Health Programme, which was warmly welcomed by the Network Members. Now that the policy problems are in principle solved, it is possible to activate the practical work of the Network and to utilize the scarce resources as effectively as possible there is also a need to strengthen and improve the functioning of the network.

*In order to further develop the work of the Network, a well-functioning communication network among the Centres should be created, taking into account that not all relevant institutions still have a website of their own or a possibility to access electronic data. This development, however, should be supported because it is very cost-effective. A global occupational health network should be created inviting network members also from those countries and regions which are not yet covered by the Network, e.g. Africa.*

10. It was stated that in addition to OEH, numerous other units of WHO have activities relevant for occupational health, which should be more effectively
utilized. The WHO internal cross-cluster work in occupational health will be organized in the form of work of a special task force.

_The work of the Task Force should be integrated into the work of the Planning Committee and the biennial Network Meetings._

11. The Collaborating Centres reported on their contribution to the implementation of the Global Strategy on Occupational Health for All. The Centres as a whole covered well most of the 10 global objectives and have also considered several new and emerging problems of occupational health such as stress at work, computerized work and, for example, the problems related to violence at work. It was recommended that the reports of the Member Institutions would be located at the Internet data system of the Network. In the Poster Session of the Fourth network meeting, the Collaborating Centres presented more in detail their achievements in occupational health and safety and particularly in the implementation of the Global Strategy.

_It was agreed that the poster-type reports on interesting and relevant achievements be continuously fed into the website of the Network._

12. It was stated that the countries in transition are in a special situation where they need support from the industrialized countries for the development of occupational health and safety. Similarly, it was agreed that in order to facilitate the activities in the developing countries, there is an urgent need to strengthen the work at WHO (HQ and Regional Offices), and thereby regionalizing the activities.

_The special needs of countries and groups of countries in a specific stage of development should be taken into account by the Regional Offices, and special programmes for the development of national OH&S systems be prepared accordingly. The respective Network Members were invited to contribute to the efforts of the Regional Offices._
Annex 1. Agenda

Fourth Meeting of the Network of
WHO Collaborating Centres in Occupational Health
7–9 June 1999
Helsinki, Finland

Agenda

Monday, 7 June 1999

Business Meeting

09:00–09:30 Opening of the Meeting

09:30–10:15 Election of the Chairmen and Rapporteur

Chair: Professor Jorma Rantanen

10:15–10:45 Occupational health and sustainable development
Richard Helmer, WHO

10:45–11:15 Coffee break

Chair: Professor Marco Maroni

11.30–12.15 Global Trends in Occupational Health and Assignments done by the Collaborating Centres
Jorma Rantanen, Finland

12:15–12:45 Discussion

12:45–14:00 Lunch

Chair: Professor Marco Maroni

14:00–14:30 Global Programme on Elimination of Silicosis – Progress Review
Shengli Niu, ILO

14:30–15:00 Future perspectives of global occupational health – Results of the WHO/OEH Informal Consultation
Carlos Corvalan, WHO/OEH
15:00–16:00  Implementation of the Global Strategy on Occupational Health for All – Achievements by the Collaborating Centres – Poster Session

Coffee served during the Session

16:00–16:05  Presentation of WHO Collaborating Centre Network homepage
J-M. Mur

16:05–17:15  Pilot core guidelines – Progress Reports
• pesticides – M. Maroni
• stress at work – T. Cox
• economic appraisal of occupational health and safety – F. Pot, S. Markovitz
• chemicals – A. Aitio

17:45–19:15  Visit to the FIOH – Introduction to the activities of FIOH

19:30  Get-together Party

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Sunday, 7 June 1999

Free Day

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Tuesday, 8 June 1999

Business Day

08:45–

Working Groups: How to implement the Global Strategy on Occupational Health for All (Provisional topics for the Groups)

Working Group 1: Strategic priorities for the implementation (within the 10 main priorities of the Global Strategy)
Moderator: Marco Maroni

Working Group 2: Development of information and registration systems (ODs, occupational accidents, work-related diseases, etc.)
Moderator: Frank van Dijk

Working Group 3: Emerging issues in occupational health
Moderator: Barbara Griefahn

Working Group 4: Concrete proposals for the implementation of the Global Strategy for the next 2 years (by the Network)
Moderator: Jorma Rantanen
Parallel with the Working Groups:

**Workshop on Health, Environment and Safety Management (HESM) in industry and other enterprises**
Moderator: S. Tarkovski

Coffee served during the Working Groups
11:00–12:00 Reports by the Working Groups
12:00–16:15 Excursion to a Finnish occupational health station with picnic lunch
16:30–16:45 Introduction to the PAHO activities and plans in occupational health
Maritza Tennessee, PAHO


19:30 Symposium Dinner

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*Wednesday, 9 June 1999*

**Scientific Meeting**

**Psychological Stress at Work**

09:00–09:30 Recent advances in basic brain research
Dr. Nina Forss, Finland

09:30–10:00 Recent advances in research on occupational stress
Professor Raija Kalimo, Finland

10:00–10:30 How to identify and measure occupational stress
Professor Tom Cox, UK

10:30–11:00 Coffee break

11:00–11:30 Health impact of stress at work
Professor Töres Theorell, Sweden

11:30–12:00 Changing nature of work
Lynn Jenkins, USA

12:00–12:45 Poster Session
Posters on Stress at Work presented by the Collaborating Centres
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<th>Time</th>
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<tr>
<td>12:30–13:30</td>
<td>Lunch</td>
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<td>13:30–14:00</td>
<td>Stress and meaningfulness of work life</td>
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<td>Professor Masaharu Kumashiro, Japan</td>
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<td>14:00–14:30</td>
<td>Prevention and control of work-related stress disorders</td>
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<td>Professor Franklin Pot, The Netherlands</td>
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<td>14:30–15:00</td>
<td>Coffee</td>
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<td>15:00–16:30</td>
<td>Conclusions and Recommendations of the Fourth Network Meeting</td>
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<td>16:30–17:00</td>
<td>Designation of the New Planning Committee</td>
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<td>Next Network meeting</td>
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<td>Closing of the Meeting</td>
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Annex 3. Fact Sheet  

Fact Sheet No. 84  
Revised June 1999

OCCUPATIONAL HEALTH  
Ethically Correct, Economically Sound

Hundreds of millions of people throughout the world are employed today in conditions that breed ill health and/or are unsafe.

- Each year, work-related injuries and diseases kill an estimated 1.1 million people worldwide, which roughly equals the global annual number of deaths from malaria.

- This figure includes about 300,000 fatalities from 250 million accidents that happen in the workplace annually. Many of these accidents lead to partial or complete incapacity to work and generate income.

**Estimated Global Work-related Mortality**  
1.1 million per year (based on 1990-95 data)

![Pie chart showing percentages of different causes of work-related mortality]

- Cardiovascular 15%
- Other 5%
- Cancer 34%
- Chronic respiratory 21%
- Injuries 25%

Other diseases include pneumoconioses, nervous system and renal disorders


- Annually, an estimated 160 million new cases of work-related diseases occur worldwide, including respiratory and cardiovascular diseases, cancer, hearing loss, musculoskeletal and reproductive disorders, mental and neurological illnesses.

- An increasing number of workers in industrialised countries complain about psychological stress and overwork. These psychological factors have been found to be strongly associated with sleep disturbance and depression, as well as with elevated risks of cardiovascular diseases, particularly hypertension.
• Only 5-10% of workers in developing countries and 20-50% of workers in industrialized countries (with a few exceptions) are estimated to have access to adequate occupational health services. In the USA, for example, 40% of the workforce of some 130 million people do not have such access.

• Even in advanced economies, a large proportion of work sites is not regularly inspected for occupational health and safety.

Making working conditions safe and healthy – the raison d' être of occupational health – is in the interests of workers, employers and governments, as well as the public at large. Seemingly obvious and simple, this idea has not yet gained meaningful universal recognition.

The reasons for that are numerous and complex and include perceptions that there will always be plenty of young and strong workers to replace the old ones, both on production lines and in pension funds. Within the next 30-40 years, this will probably no longer be the case everywhere.

The burden of occupational diseases and injuries and world trends in this area should be a matter of special concern. Particularly, because today's picture is almost certainly based on underestimates.

**Underestimated:** The evaluation of the global burden of occupational diseases and injuries is difficult. Reliable information for most developing countries is scarce, mainly due to serious limitations in the diagnosis of occupational illnesses and in the reporting systems. WHO estimates that in Latin America, for example, only between 1 and 4% of all occupational diseases are reported. Even in industrialized countries, the reporting systems are sometimes fragmented. For example, a 1993 economic impact analysis of hazardous substances regulations in Australia found data lacking in many areas and had to rely on extrapolations from Scandinavian and USA data.

There are two main problems common in developed as well as developing countries: unwillingness to recognize occupational causes of injuries or health problems, and failure to report them even when recognized. The history of occupational health is that of a struggle between workers fighting for protection and preventative measures or compensation, and their employers seeking to deny or reduce their liability for work-related diseases and injuries. This conflict has greatly influenced statistical reporting. As a result, the burden of disease due to occupational exposures is normally underestimated.

**Economic Impact:** The health status of the workforce in every country has an immediate and direct impact on national and world economies. Total economic losses due to occupational illnesses and injuries are enormous. Such losses are a serious burden on economic development. Thus, apart from health considerations, the improvement of working conditions is a sound economic investment:
• The International Labour Organization (ILO) has estimated that in 1997, the overall economic losses resulting from work-related diseases and injuries were approximately 4% of the world’s gross national product.

• In 1992, in European Union countries, the direct cost paid out in compensation for work-related diseases and injuries reached 27 000 million ECUs.

• In 1994, the overall cost of all work accidents and work-related ill health to the British economy was estimated between £6 000 million and £12 000 million.

• In 1992, total direct and indirect costs associated with work-related injuries and diseases in the USA were estimated to be US$171 000 million, surpassing those of AIDS and on a par with those of cancer and heart disease.

• In the USA, health care expenditures are nearly 50% greater for workers who report high levels of stress at work.

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**The Breakdown of Costs**  
for Work-related Injuries and Diseases

- **Central nervous system**: 8%  
- **Respiratory diseases**: 9%  
- **Injuries**: 14%  
- **Other**: 13%  
- **Musculoskeletal**: 40%  
- **Heart diseases**: 16%

*Other diseases include cancer, skin diseases and mental disorders
Source: ILO, 1999*

**Population Ageing:** In certain industrialized countries, within the next quarter-century, population ageing (with fewer children born and more people living longer) will change considerably the proportions between working and retired populations. This will undoubtedly increase pressure on the workforce for higher productivity and greater contributions to pension funds. Only a healthy workforce will be able to bear this pressure.

• Currently there are some 590 million people aged 60 years and over in the world. By 2020, this number is estimated to exceed 1 000 million. By that time, over 700 million older people will live in developing countries.
• Within the next quarter-century, Europe is projected to retain its title of the "oldest" region of the world (elderly people represent around 20% of the total population now and will represent 25% by 2020).

• According to a report, prepared by the French Government in 1999, by 2040 France is expected to have 70 people over 60 years for every 100 aged between 20 and 59, almost double the current ratio. As a result, the French social security and pensions system is expected to have a deficit of FF800.000 million (US$130.000 million) by that time.

**Occupational Hazards and Exposures**: Hundreds of millions of workers in both developed and developing countries are at risk from exposure to physical, chemical, biological, psychosocial or ergonomic hazards in the workplace. For many of these people there is often the risk of combined exposures to different occupational hazards.

• Approximately 30% of the workforce in developed and between 50 and 70% in developing countries may be exposed to heavy physical workloads or ergonomically poor working conditions, which can lead to injuries and musculoskeletal disorders. Those most affected include miners, farmers, lumberjacks, fishermen, and construction workers, warehouse workers and healthcare personnel.

• Physical hazards, which can adversely affect health, include noise, vibration, ionizing and non-ionizing radiation, heat and other unhealthy microclimatic conditions. Between 10 and 30% of the workforce in industrialized countries and up to 80% in developing and newly industrialized countries are exposed to a variety of these potential hazards.

• Exposure to hundreds of biological agents – viruses, bacteria, parasites, fungi and moulds – occurs in many occupational environments from agriculture to offices. The Hepatitis B and C viruses, HIV/AIDS infection and tuberculosis (particularly among healthcare workers), and chronic parasitic diseases (particularly among agricultural and forestry workers) are some of the most common occupational diseases resulting from such exposures.

• Thousands of toxic chemicals pose serious health threats potentially causing cancer, respiratory and skin diseases as well as adverse effects on reproductive function. Workers can be and often are exposed to hazardous chemical agents such as solvents, pesticides and metal dusts.

• Workers may also be exposed to various types of mineral and vegetable dusts. For example, silica, asbestos and coal dust cause irreversible lung diseases, including different types of pneumoconioses. Known since the time of Hippocrates, silicosis is still the most widespread occupational lung disease. Silicosis can predispose workers to tuberculosis and lung cancer; it is progressive and incurable but preventable. Vegetable dusts can cause a number of respiratory conditions (such as byssinosis) and allergic reactions (such as asthma).
• The risk of cancer from workplace exposure is of particular concern. Around 350 chemical substances have been identified as occupational carcinogens. They include benzene, hexavalent chromium, nitrosamines, asbestos and aflatoxins. In addition, the risk of cancer also exists from exposure to physical hazards such as ultraviolet (UV) and ionizing radiations. The most common occupational cancers include lung, bladder, skin and bone cancer, leukaemia and sarcomas. In the European Union, approximately 16 million people are potentially exposed to hazards at work, including carcinogenic agents.

• Exposure to thousands of allergenic agents, including vegetable dusts, is a growing cause of work-related illness. A large number of allergens have been catalogued which can cause skin and respiratory diseases (e.g., asthma). The number of these disorders, registered in several industrialized countries, is increasing steadily.

• Social conditions at work, which raise serious concerns about stress, include inequality and unfairness in the workplace; management style based on the exclusion of workers from the decision-making process; lack of communication and poor organization of work; strained interpersonal relationships between managers and employees. Stress at work has been associated with elevated risks of cardiovascular diseases, particularly hypertension, and mental disorders.

• In the least developed countries, occupational health problems are found essentially in agriculture and other types of primary production. Heavy physical work, often combined with heat stress, pesticide poisoning and organic dusts, is frequently aggravated by non-occupational factors such as chronic parasitic and infectious diseases. Poor hygiene and sanitation, nutritional problems, poverty and illiteracy heighten the risk of disease and/or occupational injury.

**Occupational Health and Women:** Women have been joining the workforce in increasing numbers, in sectors that include agriculture, industry and services, making up about 42% of the estimated global working population. Although they contribute appreciably to national economies, their special needs are seldom adequately met, even when they have access to some occupational health service.

• When exposed to occupational hazards, women of fertile age are susceptible to specific adverse effects on reproduction, including abortions (embryotoxic agents) or malformations of the foetus (teratogenic agents).

• Female workers often suffer from musculoskeletal disorders because neither the tasks nor the equipment they use, which is normally designed for men, are adapted to their built and physiology.
- In addition, female workers have specific stress-related disorders, resulting from job discrimination (such as lower salaries and less decision-making), a double burden of work (workplace and home) and sexual harassment.

**Child Labour:** According to the ILO, of the 250 million children between the ages of 5 and 14 working in developing countries today, nearly 70% work under hazardous conditions. Asia has the most child workers with 61% of the global total, Africa has 32%, and Latin America 7%. Africa, however, leads in the proportion of working children, with around 41% of all children aged between 5 and 14; the proportion in Asia is 22%, and in Latin America 17%.

**Vulnerable Populations:** Women, migrants, minorities and children are particularly vulnerable to occupational hazards. This is especially true in the informal sector, where workers are not necessarily protected and are often subjected to highly unsafe conditions in makeshift factories. Entire families may be exposed to hazards associated with industrial processes in the home, or entire communities may be affected by uncontrolled hazardous emissions from factories located adjacent to their homes.

**WHO's Response:** Since its inception in 1948, WHO has recognized the utmost importance of improving the health status of working populations and has been developing international collaboration in this area. Today, WHO Collaborating Centres carry out research, analyse data, identify trends, prepare and disseminate reports and make recommendations for national public health services and decision-makers. However, developing countries are yet to be fully involved in this work.

In order to arrive at more accurate estimates of the global burden of occupational disease and injuries, there is a need for further improvements and standardization of occupational health reporting in all countries, most particularly in developing countries. Another area, which needs particular attention, is the development of methods to estimate the economic impact of occupational injuries and diseases, as well as the cost-effectiveness of early occupational health interventions.

At present, the emphasis of WHO's Occupational Health Programme is on data collection and analysis, research, formulation of strategies and recommendations for hazard prevention and control, human resource development with special emphasis on developing countries, as well as rational development of the international network of collaborating centres.

WHO's Occupational Health Programme also addresses groups of workers with special needs. These include women and workers in small enterprises or in the informal sector, who are usually not covered by legislation and do not have access to occupational health services.

Strengthening international partnerships in the field of occupational health is yet another area of importance. WHO has paid special attention to cooperation and coordination of its work with the ILO, which works hand in hand with WHO to protect the workforce and to ensure safety and health at work. The Joint ILO/WHO
Committee on Occupational Health meets periodically to review occupational health priorities and to make appropriate recommendations for international action.

WHO collaborates actively with the International Commission of Occupational Health (ICOH), the International Occupational Hygiene Association (IOHA), the International Ergonomic Association (IEA), the European Commission (EC) and other nongovernmental and inter-governmental organizations striving to protect the health of workers.

WHO has also launched the Prevention And Control Exchange (PACE) initiative, which aims at the development of national capabilities in the field of primary prevention of occupational hazards. This is achieved through the promotion of awareness and political will, transfer of appropriate technologies, development of human resources, promotion of applied research and information dissemination. Ongoing activities include the preparation of documents on the prevention and control of specific hazards, such as noise and dust. The publication on dust is also relevant to the Joint ILO/WHO International Programme on the Global Elimination of Silicosis.

Each year, WHO and its Collaborating Centres and NGOs plan joint activities to implement the Global Strategy on Occupational Health for All.

For further information, journalists can contact WHO's Office of Public Information, Geneva. Telephone (41 22) 791 2584. Fax (41 22) 791 4858. E-Mail: info@who.int
All WHO Press Releases, Fact Sheets and Features as well as other information on this subject can be obtained on Internet on the WHO home page http://www.who.int/
# Annex 4. Work Plan

## Implementation of the Global Strategy on Occupational Health for All

**Work Plan for the Years 1999 - 2001**

<table>
<thead>
<tr>
<th><strong>Objective</strong></th>
<th><strong>Action</strong></th>
<th><strong>Responsible Organization</strong></th>
<th><strong>Deadline</strong></th>
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<td>Regional priorities and objectives</td>
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<td>WHO/OEH + ROs Planning Committee, CCs</td>
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<td>Network development in OH</td>
<td>Smooth integration of CCs’ contributions into the WHO OH Programme</td>
<td>WHO/OEH + ROs Planning Committee</td>
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</table>
# Annex 4. Work Plan

## Implementation of the Global Strategy on Occupational Health for All

**Work Plan for the Years 1999 - 2001**

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<th>Action</th>
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<tr>
<td><strong>Healthy work environment, healthy work practices, occupational health services</strong></td>
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<td>Pilot core guidelines</td>
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Annex 4. Work Plan

Implementation of the Global Strategy on Occupational Health for All
Work Plan for the Years 1999 - 2001

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<tr>
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<tr>
<td><strong>Support services, standards, human resources, research</strong></td>
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<td>Principles for setting health-based standards</td>
<td>State-of-the-Art report on existing principles</td>
<td>WHO-OEH, ILO CCs, ROs</td>
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<td>Training courses and seminars</td>
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<td>ROs + CCs</td>
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</tbody>
</table>
### Annex 4. Work Plan

**Implementation of the Global Strategy on Occupational Health for All**  
**Work Plan for the Years 1999 - 2001**

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<td><strong>Support services, standards, human resources, research (cont’d)</strong></td>
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</table>
| Core curriculum | A report on core curriculum of OH specialists  
- physicians  
- nurses  
- psychologists  
- occupational hygienists | WHO/EURO  
Glasgow University  
UOEH, Japan  
Nottingham  
WHO/OEH  
University of Texas  
Report to be distributed to CCs | 31.12.1999  
| Research | Research priorities in OH, collection of lists  
Reflective analytical report on research priorities  
Internet data bank on OH research of CCs  
Report on the scientific day on Stress at Work | INRS/INSERM  
INRS  
FIOH | 31.12.2000  
31.12.1999 |
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### Work Plan for the Years 1999 - 2001

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<tr>
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<td>FIOH</td>
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<td>WHO/OEH</td>
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<tr>
<td>Registration of ODs and injuries</td>
<td>Development of case definitions and diagnostic criteria for 3-4 ODs and</td>
<td>Coronel Institute</td>
<td>31.12.2001</td>
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<td>a related estimation of the disease burden</td>
<td>PAHO</td>
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<td>Information, surveillance and registration system for WRDs and injuries</td>
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## Annex 4. Work Plan

### Implementation of the Global Strategy on Occupational Health for All

**Work Plan for the Years 1999 - 2001**

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<th>Responsible Organization</th>
<th>Deadline</th>
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<td>enterprises</td>
<td>safety performance in enterprises</td>
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