use of appropriate technologies to control the formation and dispersal of silica-containing dust. National training events, co-sponsored by WHO and the ILO, have been organized in Brazil, China, India, Indonesia, Mexico, Morocco, Peru, Thailand, Tunisia, Turkey, Ukraine, Venezuela and Viet Nam. These training events support the development of national plans.

**Strategic information and tools for workplace solutions**

WHO provides practical tools and information on occupational health strategies and solutions to decision-makers and practitioners, including information on chemical, physical, ergonomic, psychosocial, biological and safety risk factors. These tools are made available through channels such as the WHO Network of Collaborating Centres in Occupational Health, and the newly established International Occupational Health and Safety Information web portal of WHO/ILO. WHO also provides practical tools for risk assessment and risk management, and is developing databases with solutions and tools for estimating the cost-effectiveness of interventions. Some of these are described below.

**Reducing needle-stick injuries.** Information tools for reducing needle-stick injuries among health care workers are currently being pilot tested in South Africa, the United Republic of Tanzania and Viet Nam, with funding support from the US National Institute for Occupational Safety and Health. The project is being carried out in close coordination with the International Council of Nurses, and with WHO regional offices and collaborating centres that are part of a “health care workers global task force”. Reduction of needlestick injuries among health care workers is of vital importance to developing countries. The proportion of health care workers in these populations is quite small. Such injuries and the consequent infections have potentially devastating social impacts, as well as personal ones — in terms of the loss of critical health sector resources. Globally, needle-stick injuries are responsible for more than 2.5% of human immunodeficiency virus (HIV) infections and some 40% of hepatitis B and C infections among health care professionals. For further information see newsletter no.8 http://www.who.int/occupational_health/publications/newsletter/en/.

**Occupational risk management toolbox (control banding).** This toolbox, originally developed by the Health and Safety Executive, England, was adapted by the International Occupational Hygiene Association (IOHA), ILO and WHO. It includes interactive software, backed up by a global database, which can provide guidance to employers, employees and occupational health safety practitioners about specific health and safety measures for managing particular workplace hazards. A toolkit for chemical exposure has been developed and is being tested in a number of developing country settings. By focusing on on-site exposure control, toolkits provide solutions that are practical to implement, and minimize the need for more expensive exposure monitoring. To use the chemical toolkit, for instance, data on the potential hazard (such as type of chemical and quantities being used), and the nature of the occupational setting (such as type and size of workplace), are entered using the toolkit software. The software then generates the specific guidance on how the chemical may be used, safer substitutes that may be available, and health and safety requirements appropriate in the particular setting described for example ventilation, protective clothing, etc. Other toolkits for ergonomics, noise and psychosocial risk factors are also under development by WHO and its collaborators. For further information see the Global Occupational Health Network (GONET) newsletter no. 7. http://www.who.int/occupational_health/publications/newsletter/en/.

**Improved provision of basic occupational health services**

WHO also offers guidance to countries on expansion of occupational health services for groups of workers who do not typically receive coverage. Such guidance is being developed in collaboration with the International Commission on Occupational Health (ICOH) and ILO. A key area of emphasis is increasing the access of workers in particular vulnerable groups, workers in hazardous occupations and workers in the informal economy, to a basic package of occupational health services. WHO is now working with partner countries to disseminate such guidance and expand occupational health services in targeted sectors, for example mining and agriculture, and workers in small enterprises.

**Making it happen**

WHO’s Occupational Health programme is implemented through WHO’s global, regional and country offices, and backed by a worldwide network of partners and collaborators. Together with WHO’s longstanding partner in occupational health, the ILO, a number of international NGOs are active partners — including the ICOH, IOHA, and the International Ergonomics Association (IEA). In addition, WHO coordinates a network of some 45 collaborating centres, in occupational health, worldwide. These centres range from occupational health institutes to schools of medicine and/or university departments in every region of the world. The WHO collaborating centres are currently carrying out over 300 occupational health projects in various priority areas. The projects being undertaken range from hands-on fieldwork in areas for example the protection of hospital workers from chemical hazards, prevention of injury in small factories, and surveillance for pesticide exposure among farm worker populations, to endeavours in training and research and the development of practical guidance for health and safety evaluations. Programmes address both the traditional hazards of primary importance to developing nations, such as exposure to noise, dust and biological and chemical substances, as well as new and emerging problems, for example stress and violence at work. Work in the priority areas is guided by an international task force, including representatives of WHO, the ILO, NGO partners, and the WHO collaborating centres. Collaborating centres from industrialized nations have, moreover been “partnering” centres in developing countries, to enhance the development and review of projects. This Network supports and collaborates together with WHO to translate the global policies and guidance of WHO into action at the national and local levels. The improved occupational health policies, information, tools and services then make the critical difference between disability, illness, death, and health and safety of workers.

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For further information visit http://www.who.int/occupational_health/en/

Publications are available without charge.
ISSUES

A “double burden” of occupational risks

The global economy has expanded space over the past decades, and yet the majority of the world’s 2.6 billion workers remain employed in conditions that fail to meet international health and safety standards and guidelines. Such workers are exposed to unacceptable levels of dust, dirt, noise, toxic chemicals and biological substances. They face various kinds of job-related safety hazards; ergonomic hazards from lifting heavy loads; hazards related to poor or insecure employment conditions; and job-related stress – placing health, and often lives, at risk.

In 2000 alone, according to the International Labour Organization (ILO), some 2 million people died, at least 271 million people were injured, and at least 160 million became ill as a result of occupationally-related hazards or injuries. Such statistics offer only a partial picture of the problem because no data for nonfatal illness and injury are available from most countries of the world. Globally, occupational deaths, diseases and injuries account for an estimated loss of 4% of the gross domestic product.

A “double burden” of occupational hazards has become apparent over the last few years. Long-recognized workplace hazards, for example exposure to high levels of noise and dust, excess burdens of weight, and toxic chemicals remain serious problems in many parts of the world. At the same time, new hazards are emerging or just becoming apparent. These include hazards associated with the use of new technologies, for example, long hours sitting at a computer monitor; psychosocial hazards; and the hazards associated with subcontracted and informal labour arrangements that are prevalent in many countries.

Most of workers in many developing countries, are employed in the “informal” sector, where defined terms of employment and workers’ benefits, including provision of health care services, may be weak or non-existent. The widespread involvement of children in the workforce – without any legal rights of protection – is another fundamental problem. According to the ILO, 352 million children between the ages of 5 and 17 years are working. Some 170 million children are engaged in hazardous work that endangers their physical, mental or moral wellbeing. This is despite 130 nations having ratified the ILO convention aiming at eliminating the worst forms of child labour including hazardous child labour.

Workplace hazards are responsible for a significant proportion of the incidence of several major noncommunicable diseases, including 37% of back pain, 16% of hearing loss, 13% of chronic obstructive pulmonary diseases, 11% of asthma, 10% of injuries, 10% of lung cancers and 2% of leukemias (World Health Report, 2002).

In many developing countries increased attention is being paid to the effects of psychosocial factors on the health and well-being of workers.

• Certain groups of workers are exposed to unacceptably high risks. For instance, agricultural workers in many developing countries are exposed to high levels of pesticides; miners are chronically exposed to heavy metals, dust and are at risk from occupational injury; construction workers are often exposed to high levels of noise and physical hazards; and health care workers are exposed to risks of disease from needle-stick injuries.

• Workers in the most hazardous working conditions are among the poorest sectors of the population in general. They live in poor housing and suffer most from a lack of access to clean water, sanitation and basic necessities.

Occupational health services often focus on the delivery of medical or curative services and on the provision of personal protective equipment. However, significant and more long-lasting health gains could be achieved if greater emphasis was placed on effective policies and programmes for primary prevention. In many locations, particularly in the developing world, such policies and programmes are weak or virtually non-existent. A greater emphasis must also be placed on the employers’ responsibility to provide a safe and healthy workplace for employees — rather than blaming the victim of occupational injury or illness.

Overall, occupational health policies, programmes and services need to be developed around a hierarchy of intervention, moving, in order of preference, from the elimination of the hazard to engineering controls and administrative controls before example policies and training programmes aimed at limiting exposures to the hazard, and finally to work practice controls and better use of personal protective equipment — such as barriers and filters between the worker and the hazard (for example, glasses, helmets, masks).

RESPONSE OF THE WORLD HEALTH ORGANIZATION

Since its creation in 1948, the World Health Organization (WHO) has been an active force in the promotion of workers’ occupational health. In 1994, WHO, in a resolution of the World Health Assembly adopted the “Global Strategy on Occupational Health for All”, which provides a framework for action to be taken together with Member States, other United Nations partners, nongovernmental organizations and the WHO Network of Collaborating Centres in Occupational Health. From migrant farmers in Latin America, to high-technology factories in the emerging economies of Asia, WHO’s mission today continues to be the promotion of “Occupational Health for All” for workers throughout the world.

CHALLENGES

The protection of workers’ health is closely related to equity issues.

• Only 15% of the global workforce has access to any kind of occupational health services.

• Lack of access to such services is greatest among workers in the informal economy – which cuts across all sectors of economic activities, and includes a large proportion of women and children, as well as workers living in poverty.

• Many developing countries have access to any kind of occupational health services.

• Lack of access to such services is greatest among workers in the informal economy – which cuts across all sectors of economic activities, and includes a large proportion of women and children, as well as workers living in poverty.

In order to implement this strategy, WHO focuses on three main programmatic areas: supporting occupational health policy development; improving access to information and practical solutions for workplace problems; and improving and expanding delivery of occupational health services so as to achieve universal access for all workers.

Creating a supportive policy environment

WHO, in close collaboration with the ILO, works to strengthen and improve partnerships at country level between ministries of health, labour and social security. These partnerships are aimed at the development of good practice occupational health policies, including:

- national occupational health strategies or policies and national action plans;
- national occupational health profiles and estimates of occupational health burden; and
- new and strengthened “partnerships” at national and regional level between the public and private sectors, civil society, organized workers and government.

The WHO/ILO Joint Effort on Occupational Health and Safety in Africa (AEO) is an example of such a partnership in action. The AEO was created in 2001 to address occupational health and safety issues in a high risk region of the world. It builds upon the ILO’s long involvement with the labour sector in the region, and WHO’s strong relationship with health officials and professionals. In just 4 years, the AEO has developed into a network of over one hundred partner institutions and individuals that advocates policies and legislation to protect the health and safety of workers, undertakes research, supports development of human resources, and promotes occupational health and safety for those engaged in hazardous occupations and among vulnerable groups, such as informal sector workers, women and children. Activities undertaken so far under the AEO framework have included:

- advanced the Global Campaign to Eliminate Silicosis;
- creation of a Clearing House for Occupational Health and Safety Information together with African collaborating centres, and a web site on Occupational Health in Africa (www.shafrika.info);
- training activities, such as the development of a new Masters Programme on Occupational Health at the National Institute for Occupational Health (NIOH) in South Africa;
- preparation of national profiles on occupational safety and health in Egypt, Kenya, Uganda and the United Republic of Tanzania;
- preparation of a joint Ministry of Health/Ministry of Labour national plan of action for occupational health in Benin.

Endorsing the WHO Global Strategy on Occupational Health for All in 1996, the Forty-Ninth World Health Assembly urged the Member States to devise national programmes on occupational health. WHO is working with the individual countries to support them in their efforts to strengthen political commitment to occupational health.

The WHO/ILO Global Programme on Silicosis Elimination is another important joint policy endeavour. Through this programme, developing countries receive aid and support for national campaigns to eliminate silicosis, based upon the successful preventive programmes developed over the past five decades in Australia, Europe, Japan and North America. Such programmes typically include the adoption of stricter regulations relating to exposure to silica and to reporting, as well as improved health surveillance and training, provision of protective equipment, and the

PRIORITIES FOR A GLOBAL STRATEGY

- Strengthening of international and national policies for health at work.
- Promotion of a healthy work environment, healthy work practices and health at work.
- Strengthening of occupational health services.
- Establishment of appropriate support services for occupational health.
- Development of occupational health standards based on scientific risk assessment.
- Development of human resources.
- Establishment of registration and data systems, and information support.
- Strengthening of research.