International Labour Office

International
Labour
Office
Geneva

Trainer's guide

SOLVE: Integrating Health Promotion into Workplace OSH Policies

Edited by Valentina Forastieri

International Labour Office

SOLVE:
Integrating Health Promotion into Workplace OSH Policies

SOLVE : integrating health promotion into workplace OSH policies : trainer's guide / International Labour Office. - Geneva: ILO, 2012

ISBN: 9789221250296; 9789221250302 (web pdf); 9789221242819 (CD-ROM)

International Labour Office

occupational health / occupational safety / training of trainers / work organization / working conditions / stress / bullying at work / workplace violence / HIV / AIDS / alcoholism / drug abuse / smoking / nutrition / role of ILO / enterprise level

13.04.2

Also available in French: *SOLVE: Intégrer la promotion de la santé dans les politiques de sécurité et santé au travail: Guide du formateur* ISBN: 978-92-2-225029-5 (print); 978-92-2-225030-1 (web pdf); 978-92-2-224281-8 (CD-ROM), Geneva, 2012, and in Spanish: *SOLVE: Integrando la promoción de la salud en las políticas de SST en el lugar de trabajo: Guía del formador* ISBN 978-92-2-325029-4 (print); 978-92-2-325030-0 (web pdf); 978-92-2-324281-7 (CD-ROM), Geneva, 2012.

ILO Cataloguing in Publication Data

Design: Valeria Morra, ITCILO. Illustrations: Enzo Fortarezza, ITCILO
Printed by the International Training Centre of the ILO, Turin, Italy

Preface

In recent years, there has been growing attention to the impact of psychosocial factors in the workplace both in developed and developing countries. Work-related stress, burnout, mobbing and other forms of violence at work are now generally acknowledged as global issues, affecting all countries, all professions and all workers. It is also accepted that they can have a significant impact on workers' health, absenteeism and performance. Rapid globalization and technological progress have transformed the world of work resulting in emerging psychosocial risks which require an approach that breaks away from traditional efforts and moves towards new effective responses.

Research and interventions are now being undertaken in many countries to devise innovative ways to deal with the consequences of psychosocial factors and, in particular, of work-related stress. These initiatives include preventive practices and incorporating health promotion measures, such as good nutrition, exercise and other healthy lifestyles to contribute to workers well-being.

The potential of workplace health promotion to enhance working life is a vital component in improving workplace productivity and performance. Integrating health promotion into Occupational Safety and Health (OSH) policies benefits both workers and employers by improving the long-term well-being of workers and their families, and reducing pressure on health, welfare and social security systems. Integrating health promotion measures into OSH management systems enhances occupational health practice and contributes to the construction of a preventive culture.

The purpose of this training package is to contribute to the design of workplace policies and preventive measures on the basis of the global knowledge gained. This second edition of the SOLVE training package builds upon the experience acquired through the implementation of SOLVE's training programme since 2002. It also takes into account the most recent trends concerning emerging psychosocial risks and integrates workers' health promotion and well-being as essential elements of workplace OSH policies and practices.

The SOLVE training package advocates that a comprehensive OSH management system should ensure that risk management also includes the assessment and control of psychosocial factors to properly manage their impact in the same way as it is done with other hazards and risks; and that health promotion measures, such as nutrition and physical activity for health are incorporated into the organization's policy.

This training package is meant for HR managers, trade unions, employers' associations, OSH professionals and practitioners as well as national institutions responsible for the health and well-being of workers.

The ILO strives for decent work, safe work and human dignity. Providing for mechanisms to address psychosocial risks at work by incorporating preventive and health promotion measures contributes to a more decent and human world of work. In the light of the recent financial crisis, this objective is more than ever everyone's concern.

Manuela Tomei
Director
Labour Protection Department
(PROTRAV)

Seiji Machida
Chief
Programme on Safety and Health at
Work and the Environment (SafeWork)

Foreword

The first edition of **SOLVE**, published in 2002, was designed as a direct response to the needs of ILO's constituents to protect workers against emerging psychosocial risks and to promote their health and well-being in the workplace.

This second edition has been revised and considerably expanded to meet the new challenges of a changing world of work. The demands of constituents, course directors, and users of the original **SOLVE** training package have also been taken into account. The five original subjects have been reviewed in the light of scientific developments and good practices. The new version incorporates other health promotion aspects, such as nutrition, healthy sleep and physical activity. As any change in work organization and workplace culture requires an assessment of psychosocial factors to carefully manage and reduce stress, it also considers new challenging situations in times of change which can contribute to economic stress. the new SOLVE training programme covers nine topics related to workplace health promotion in a highly interactive way, aiming to provide participants with the knowledge and skills necessary to integrate the topics into an occupational safety and health policy and a workplace health promotion action programme.

The ILO acknowledges that in times of global financial and social crisis and workplace change, coping successfully with psychosocial risks at the workplace is essential for protecting the health and well-being of workers while enhancing productivity. This training package intends to contribute to support ILO constituents and other social partners in protecting workers' health and promoting their well-being.

Valentina Forastieri
Editor Second Revised Edition SOLVE
Coordinator Health Promotion and Training Cluster
Programme on Safety and Health at Work and the Environment
(SafeWork)
International Labour Office
Geneva, Switzerland

Table of contents

Acknowledgements

The second edition of SOLVE is a revised and extended version of the original SOLVE Policy Course, published in 2002. SafeWork wishes to acknowledge the contributions of all those involved in the drafting, editing, reviewing, and validating of the SOLVE training package for the first and the second editions. Furthermore, we wish to express our gratitude and appreciation for the kind assistance of the course directors who were co-authors of the technical chapters from the trainers' manual in the second edition. Special thanks to Chiara Cirelli for her contribution to this edition. The following individuals have directly contributed to both editions (listed in alphabetical order):

First edition:

Vittorio **Di Martino**, ILO/Condit, **Editor First Edition**, Geneva, Switzerland

Abu **Bakar Che Man,** Department of Occupational Safety and Health, Malaysia;

Johari **Bin Basri**, National Institute of Occupational Safety and Health, Malaysia;

Giovanni **di Cola**, ILO/CODEV, Geneva, Switzerland;

Enzo **Fortarezza**, ILO/MDP International Training Centre, Turin, Italy;

Amanda **Griffiths**, University of Nottingham, UK;

David **Gold**, ILO/SafeWork (Editor) Geneva, Switzerland;

Carin **Håkansta**, ILO/SafeWork Geneva, Switzerland;

Asiah **Jaffar**, National Institute of Occupational Safety and Health, Malaysia;

Christian **Kroll**, Consultant, Germany;

Susan **Leather**, ILO/AIDS Geneva, Switzerland;

Mai-Li **Lim**, National Safety Council, USA;

Michele **McClure**, ILO/MDP International Training Centre, Turin, Italy;

Valeria **Morra**, ILO/MDP International Training Centre, Turin, Italy;

Mokar **Musri** , Department of Occupational Safety and Health, Malaysia;

Irene **Nori**, ILO/SOCPRO International Training Centre, Turin, Italy;

Salvator **Niyonzima**, UN/AIDS, Geneva, Switzerland;

Judith **Peterson**, ILO/SafeWork, Geneva, Switzerland;

Jaime **Pujol**, ILO International Training Centre, Turin, Italy;

Annette **Schaap**, ILO/SafeWork, Geneva, Switzerland;

Behrouz **Shahandeh**, ILO/SafeWork; Geneva, Switzerland;

Jukka **Takala**, ILO/SafeWork Geneva, Switzerland;

Lynn **Villacorta**, ILO International Training Centre, Turin, Italy;

Rudolph **Wabitsch**, UN Joint Medical Service;

Nils-Petter **Wedege**, Labour Inspectorate, Norway.

Second edition:

Valentina **Forastieri**, ILO/SafeWork **Editor Second Edition**, Geneva, Switzerland;

Syed **Mohammed Afsar**, ILO AIDS, Geneva, Switzerland;

Janis **Anderson**, Harvard Medical School, USA;

Orfeu **Buxton**, Harvard Medical School, USA;

Joannah **Caborn**, ILO/SafeWork, Geneva, Switzerland;

Chiara **Cirelli**, ILO/SafeWork, Geneva, Switzerland;

Julia **Faldt**, ILO AIDS;

Enzo **Fortarezza**, ILO/MDP International Training Centre, Turin, Italy;

Eva **Gindre**, Office Cantonal de l'Inspection et des Relations du Travail (OCIRT), Geneva, Switzerland;

David **Gold**, ILO/SafeWork, Geneva, Switzerland;

Carin **Håkansta**, (ILO/SafeWork),Geneva, Switzerland;

Stefano M. **Johnson**, ILO/MDP, International Training Centre, Turin, Italy;

Josée **Laporte**, ILO AIDS, Geneva, Switzerland;

Sue **Leather**, ILO AIDS,Geneva, Switzerland;

Stavroula **Leka**, University of Nottingham, UK;

Felix **Martin Daza**, ILO/SPP International Training Centre, Turin, Italy;

Michele **McClure**, ILO/MDP International Training Centre, Turin, Italy;

Valeria **Morra**, ILO/MDP International Training Centre, Turin, Italy;

Pratima **Murthy**, National Institute of Mental Health and Neuro-Sciences, India;

Lakshmi **Sankaran**, Christ University, Bangalore, India;

Joe **Shiels**, ILO/SafeWork, Geneva, Switzerland;

Irene **Nori**, ILO/MDP International Training Centre, Turin, Italy;

Jane **Paul** Consultant, UK;

Cristina **Pierini**, ILO/MDP International Training Centre, Turin, Italy;

Tahira **Probst**, Washington State University, USA;

Alice **Rena**, ILO/SafeWork, Geneva, Switzerland;

Luminita **Sanda**, NAC/TFI/NMH, WHO Geneva, Switzerland;

Luvia **Soto**, psychologist and training specialist, Turin, Italy;

Bistra **Tzenova**, National Centre of Public Health Protection, Bulgaria;

Ilkka **Vuori**, Institute for Health Promotion Research, Finland.

List of acronyms

AIDS	Acquired Immune Deficiency Syndrome
ART	Antiretroviral Therapy
BAC	Blood Alcohol Concentrations
BCC	Behaviour Change Communication
CD	Compact Disk
CDC	Centers for Disease Control
CEA	California Environmental Agency
COP	Conference of Parties
COPD	Chronic Obstructive Pulmonary Disease
CVD	Cardiovascular Disease
EAP	Employer Assistance Programmes
EEA	European Economic Area
EHN	European Heart Network
ENWHP	European Network for Workplace Health Promotion
ETS	Environmental Tobacco Smoke
EU	European Union
EU-OSHA	European Agency for Safety and Health at Work
FCTC	Framework Convention on Tobacco Control
FHI	Family Health International
FVC	Forced Vital Capacity
HDL	High Density Lipoprotein (low levels of good cholesterol)
HIV	Human Immunodeficiency Virus
HSE	Health and Safety Executive
ICT	Information communication Technology
ILO	International Labour Organization
LDL	Low Density Lipoprotein (high levels of bad cholesterol)
LSD	Lysergic Acid Diethylamide
MSD	Management of Substance Dependence

NGO	Non-Governmental Organization
NHS	National Health Service
NIDA	National Institute on Drug Abuse
OSH	Occupational Safety and Health
PCP	Phencyclidine
PEP	Post-Exposure Prophylaxis
PLHIV	People Living with HIV
PLMD	Period Limb Movement Disorder
PPT	PowerPoint Presentation
PTSD	Post Traumatic Stress Disorder
PROTRAV	Labour Protection Department
RLS	Restless Legs Syndrome
RSI	Repetitive Strain Injuries
SHS	Second-hand Smoke
SIDS	Sudden Infant Death Syndrome
STI	Sexually Transmitted Infection
TB	Tuberculosis
UN	United Nations
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNODC	United Nations Office on Drugs and Crime
VCT	Voluntary Counselling and Testing
WAPPA	Workplace Alcohol Prevention Programme and Activity
WHO	World Health Organization
WHO SUPRE	World Health Organization Suicide Prevention programme
WHP	Workplace Health Promotion

Introduction to the new edition

Introduction to the new edition

The problem

Scientific evidence shows that in the long term, work-related stress can contribute to musculoskeletal disorders and ill-health, including hypertension and cardiovascular diseases; it may also alter immune functions which in turn can facilitate the development of cancer. Moreover, work-related stress also contributes to an inability to cope with work as well as poorer career opportunities and employment prospects. More widely, it can lead indirectly to problems in and outside of the workplace such as violence; the abuse of drugs, tobacco, and alcohol; strained family relationships; depression, and even suicide. This represents potentially huge costs, both in terms of human distress and economic burden.

Work-related stress, tobacco use and exposure to second-hand smoke, the abuse of drugs and alcohol, violence and HIV and AIDS are major threats to an enterprise's survival. Taken together they can be responsible for a great number of occupational accidents and diseases which lead to injuries, illnesses, incapacity and death. These problems have a considerable impact on productivity, on direct and indirect costs, and on the very existence of the enterprise. Regardless of a country's stage of development, these problems affect nearly all countries, all sectors and all categories of workers.

In contrast, many harmful effects of lifestyle behaviours, such as smoking, alcohol and drug abuse, nutritional deficiencies, and physical inactivity can also interact with workplace hazards. Their combined effects may increase the health risks of workers. However, the early detection and appropriate treatment of incipient diseases will reduce mortality and lower the frequency and extent of residual disability from many occupational and work-related diseases. There is growing evidence that the elimination or limiting of such health risks can also prevent or delay the onset of life-threatening diseases such as strokes, coronary artery diseases and cancer.

The economic and social costs

There are considerable costs for the individual worker in terms of stigmatization, physical and mental health disorders, incapacity to work, the risk of job loss, strained or fractured relationships at home, and even death. Within the enterprise, these problems result in disturbed labour relations, increased absenteeism, staff turnover, internal transfers and retraining, reduced motivation of staff, decreased satisfaction and creativity, as well as a poorer public image. The overall impact is a significant loss of productivity and decreased competitiveness of the enterprise. What is known probably represents only the tip of the iceberg. The direct and indirect costs relating to these problems are only beginning to be quantified.

Stress: A recent study by the European Agency for Occupational Safety and Health found that on average 22 per cent of the European workforce is stressed, with markedly higher levels in the newer member States (30 per cent) than in the older member States (20 per cent) (EU-OSHA, 2009).

Drugs and alcohol: It has been estimated that up to 54 per cent of alcohol-related incidents (such as accidents, quarrels, absenteeism, crime, etc.) are attributed to light drinkers, with 87 per cent of the total attributed to light and moderate drinkers (Becker, 2001).

Violence: Many national surveys have found that between 40 per cent and 90 per cent of the women questioned have suffered some form of sexual harassment during the course of their working lives (Hunt et al., 2007).

HIV and AIDS: In 2009, an estimated 1.8 million people died of AIDS and in that same year 2.6 million people became infected. The most affected region is Sub-Saharan Africa, which is home to 22.5 million people living with HIV (PLHIV), 68 per cent of the global total of PLHIV (UNAIDS, 2010).

Tobacco: Unless urgent action is taken, tobacco could kill one billion people during the 21st century. By 2030, more than 80 per cent of tobacco related deaths will be in developing countries (WHO, 2008).

Nutrition: It is estimated that there are more than 300 million obese people worldwide (WHO, 2006).

Physical Activity: Associated with a 25 per cent lower risk of bowel and breast cancer in the United Kingdom (Cancer Research UK). According to the WHO, ninety per cent of people with diabetes have type 2 diabetes which is closely related to being overweight and physical inactivity (WHO, 2009).

Healthy Sleep: Research shows that individuals suffering from sleep deprivation and sleep disorders are less productive, have an increased health care utilization, and have an increased likelihood of injury (Colten; Altevogt, 2006).

Economic Stress: in 2008 the global unemployment rate was estimated at 6.6 per cent (ILO, 2010a). The economic crisis resulted in an additional 7.8 million young workers facing unemployment, bringing the total to an estimated 81 million, or 13 per cent globally (ILO, 2010b).

The response

Health promotion programmes at the workplace are being designed to enable workers to cope more effectively with psychosocial factors contributing to work-related, personal or family problems that may impact on their well-being and work performance, such as stress, violence or the abuse of alcohol and drugs. Unfortunately, most of these initiatives tackle the problems only from an individual perspective, without taking into account the contributing organizational or labour relations factors.

For the ILO, health promotion in the workplace is effective when health promotion activities complement occupational safety and health measures by integrating them into OSH management practices in order to prevent accidents and diseases, and when they protect and improve the health and well-being of men and women at work.

The fundamental principles of this approach are found in the Occupational Safety and Health Convention (No. 155) and its accompanying Recommendation (No. 164) as well as in the Occupational Health Services Convention (No. 161) and its accompanying Recommendation (No. 171). Occupational health services are entrusted

with preventive and advisory functions, and are responsible for assisting employers, workers, and their representatives in meeting the requirements of establishing and maintaining a safe and healthy working environment which facilitates optimal physical and mental health in relation to work. These include the adaptation of work to suit the workers' capabilities by taking into account their state of physical and mental health.

The workplace has become an ideal venue to address emerging psychosocial risks through the joint action of employers, workers and national authorities. This implies conducting an occupational health practice which involves:

- the prevention of occupational and other work-related diseases as well as occupational injuries;
- the improvement of working conditions and work organization;
- the incorporation of psychosocial risks into risk-assessment measures; and
- assessing the needs of the organization itself taking into consideration organizational, individual and individual-organizational interaction levels when evaluating workers' health requirements.

In this context SOLVE is a tool which can contribute in addressing workplace psychosocial hazards and risks. The ILO's comparative advantage lies in its experience using the social dialogue approach, which has resulted in the implementation of successful workplace and community initiatives which address these problems with the involvement of employers, workers, OSH practitioners, governments, policy makers, public services and NGOs.

The training material

This training package was developed by the ILO's International Programme on Safety, Health at Work and the Environment (SafeWork) in collaboration with the ILO's International Training Centre in 2002. Known as SOLVE, it provides for a six-day interactive training course with the goal of giving participants from enterprises, organizations, and institutions the knowledge and skills to incorporate a health promotion strategy into a comprehensive workplace policy on OSH.

This training package was designed to complement:

- The definition of occupational health of the ILO/WHO Joint Committee on Occupational Health: "Occupational health should aim at the promotion and maintenance of the highest degree of physical, mental and social well-being of workers in all occupations […]".
- The ILO's Occupational Health Services Convention, 1985 (No. 161) and its Recommendation (No. 171).
- The ILO code of practice on the management of alcohol- and drug-related issues in the workplace (1996).
- The ILO Recommendation concerning HIV and AIDS and the World of Work, 2010 (No. 200).
- The ILO Guidelines on Occupational Safety and Health Management Systems (2001).

- The ILO code of practice on HIV and AIDS and the world of work (2001).

SOLVE was designed to offer an integrated workplace response for dealing with stress, violence, tobacco use and exposure to second-hand smoke, drugs and alcohol abuse, and HIV and AIDS. SOLVE also introduced an innovative approach whereby workers' health, safety, and their well-being became an integral part of organizational development and economic sustainability, by contributing to productivity and competitiveness in the globalized world economy. SOLVE offers the tools for the design of such a policy and for taking immediate action to reduce or eliminate the emerging risks associated with these problems in the workplace.

To achieve these objectives SOLVE is:

People-centred: Workers are increasingly recognized as the crucial asset for the success of any business. Their well-being is essential to the development of the "new" flexible, quality-oriented, knowledge-based, healthy and competitive enterprise.

Preventive: Prevention is a much more cost-effective and successful way to take action than waiting until a significant problem has developed. A healthy work organization and working environment are preconditions to the success of a productive enterprise.

Gender-sensitive: Consideration is paid to how psychosocial risks affect both men and women. In its training and promotional activities, SOLVE strives for gender balance and to avoid gender-specific roles.

Results-oriented: Success can only be measured by the results in the workplace. Taking action to promote changes in the workplace should be the natural follow-up to SOLVE.

Adaptable: Situations are complex and solutions are multiple. A single approach to any problem does not work in all environments and cultures. Several approaches and options are presented and discussed, so that users can develop programmes and actions that meet their unique needs and circumstances.

Self-sustainable: The programmes and means of action developed to meet the needs of the employers and workers should show positive results, be capable of being modified in order to meet changing circumstances, and be cost-effective. The training programme aims for sustainable action that can be continued easily and cost-effectively in an enterprise.

The SOLVE training package is designed with a participatory approach as all the participants should have an active role in designing the OSH policy and the health promotion programme. Based on the training of trainers' model evolved from adult education methods and learning theories, it is conceived to build up on knowledge from participants during the course and to support the workplace design on joint labour-management programmes. Therefore, it is not written in an academic or scholarly style, but it is more practically oriented and uses more concrete, everyday language.

The new revised version includes two handbooks dealing with the following 12 subjects: Introduction to the method; managing workplace health promotion; work-related stress; alcohol and drugs at work; violence at work; HIV and AIDS at work; tobacco and workplace second-hand smoke; nutrition at work; physical activity for health; healthy sleep; economic stress and from concept to action.

1. The participant's workbook: Each module, one per topic, includes information notes and a set of exercises, hand-outs of PowerPoint presentations and a checklist with practical suggestions to orient the participants in the design of their health promotion policy and programme.
2. The trainer's guide: includes 12 modules designed to provide the trainers with a structured guide to develop the key competences in training on workplace health promotion with solid technical information on all the topics addressed in SOLVE. This is complemented by a lesson plans booklet aimed at guiding the trainer in the organization of the training sessions and delivery of the course.
3. A CD: contains the electronic version of both handbooks, the PPTs for presentation and complementary reference materials.

The target audience

This training package is intended to stimulate action; its primary audience consists of managers, supervisors, workers and their representatives, occupational physicians and safety engineers who have a concrete interest in introducing preventive programmes dealing with psychosocial hazards and health promotion within their enterprise. In a broader prospective, a secondary (but no less important) audience will consist of policy-makers, as well as officials of governments, workers' and employers' organizations with a direct interest in this area. It has been conceived with a training of trainers' approach in order to disseminate it widely throughout institutions, organizations and companies dealing with workplace health promotion.

The SOLVE approach

The ILO designed SOLVE with the aim of integrating workplace health promotion into OSH policies. The SOLVE training package focuses on the promotion of health and well-being at work through policy design and action addressing the following areas and their interactions:

- Psychosocial health:
  - stress;
  - psychological and physical violence;
  - economic stressors.
- Potential addictions:
  - tobacco consumption;
  - alcohol and drug consumption.
- Lifestyle habits:

- nutrition;
- exercise or physical activity;
- healthy sleep;
- HIV and AIDS.

In six days, this new SOLVE training course covers these nine topics related to workplace health promotion in a highly interactive way, aiming to provide participants with the knowledge and skills to integrate those topics into occupational safety and health policy and action. In addressing these problems, employers and workers' representatives may contribute to workers well-being, higher productivity, fewer turnovers, less absenteeism and reduced costs for enterprises. SOLVE uses the social dialogue approach to promote the implementation of successful workplace and community initiatives, with the involvement of employers, workers, governments, public services and NGOs.

Figure 1.1: The SOLVE approach highlighting the interrelationships between areas of health promotion

Managing workplace health promotion

1. Introduction

Rapid globalization and technological progress have transformed the way we work across the world. In some cases many of the more traditional hazards and risks have been reduced or eliminated, in other cases new risks have emerged, while in a further set of cases existing risks have increased. As a result, enterprises have placed greater emphasis on preventing occupational accidents and ill-health through OSH management systems. More than ten years of global implementation of such systems have shown that ensuring good safety and health standards is good for business productivity as well as for quality employment.

Among the most important emerging risks in the workplace, psychosocial risks and their outcomes, such as work-related stress, burnout, mobbing and other forms of violence, the abuse of alcohol and drugs have now been generally acknowledged as global issues affecting all countries, all professions and all workers, and having a significant impact on workers' health, absenteeism and performance.

Consequently, the workplace has become an ideal venue to address emerging psychosocial risks in order to protect the health and well-being of all workers. This will also contribute towards improving workplace productivity and performance, improving the long-term well-being of workers and their families, and reducing pressure on the enterprise, as well as on the health-care, welfare, and social security systems.

In this context, a comprehensive OSH management system should ensure that risk management also includes psychosocial risks to effectively manage their impact, in the same way as with other OSH risks in the workplace, as well as improving preventive practices by incorporating health promotion measures.

Nevertheless, an approach which breaks away from traditional individual efforts is necessary and essential to find innovative ways in dealing with the consequences of psychosocial risks and work-related stress. Individual and organizational factors which may be contributing to psychosocial risks should be taken into account in order to adapt work to suit workers capabilities and their physical and mental health requirements. In addition, it is important to consider both labour and social relations as factors that also have an impact on the productivity of the enterprise.

2. What is workplace health promotion?

The term "workplace health promotion" is interpreted in different ways by different stakeholders. Many enterprises/organizations may be undertaking health promotion activities at the workplace without realizing they are doing so. Others may be giving priority to health promotion measures, such as promoting healthy habits, rather than to occupational safety and health practice. In recent years, health promotion programmes at the workplace are mainly being designed to assist workers in becoming more skilled in managing their chronic conditions and in becoming proactive in their health care. These programs will continue to develop and expand as the workforce ages and chronic health problems place increased burdens on health systems and national economies.

For the ILO, an effective workplace health promotion programme:

1) Complements occupational safety and health measures and is integrated into the OSH management system of the organization. This way, it contributes in establishing and maintaining a safe and healthy working environment enhancing the quality of working life and adding to optimal physical and mental health at work.

2) It also contributes to enable workers to cope more effectively with psychosocial risks and work-related, personal or family problems that may impact their well-being and work performance, such as stress, violence or the abuse of alcohol and drugs.

3) It assists workers in becoming more skilled in managing their chronic conditions and proactive in their health care in order to improve their lifestyles, the quality of their diet and sleep, and their physical fitness.

4) This implies that the measures taken should not only address these issues from an individual point of view, but also from a collective one which is closely related to the improvement of working conditions, the working environment and work organization, as well as to family, community and social contexts. Workplace Health Promotion (WHP) is the combined effort of employers, workers, their communities and society to improve the health and well-being of women and men at work.

The ecological model

The ecological model acknowledges that there are many factors which influence health outcomes, for example, whether and how much an individual smokes; or how they organize their diet, or how apparently similar stressful events lead to radically different consequences for different people. Human behaviour is determined by a "reciprocal causation" between many areas of life; for example, what the individual does has an impact on the environment, but also the environment impacts on the individual in a series of complex interactions.

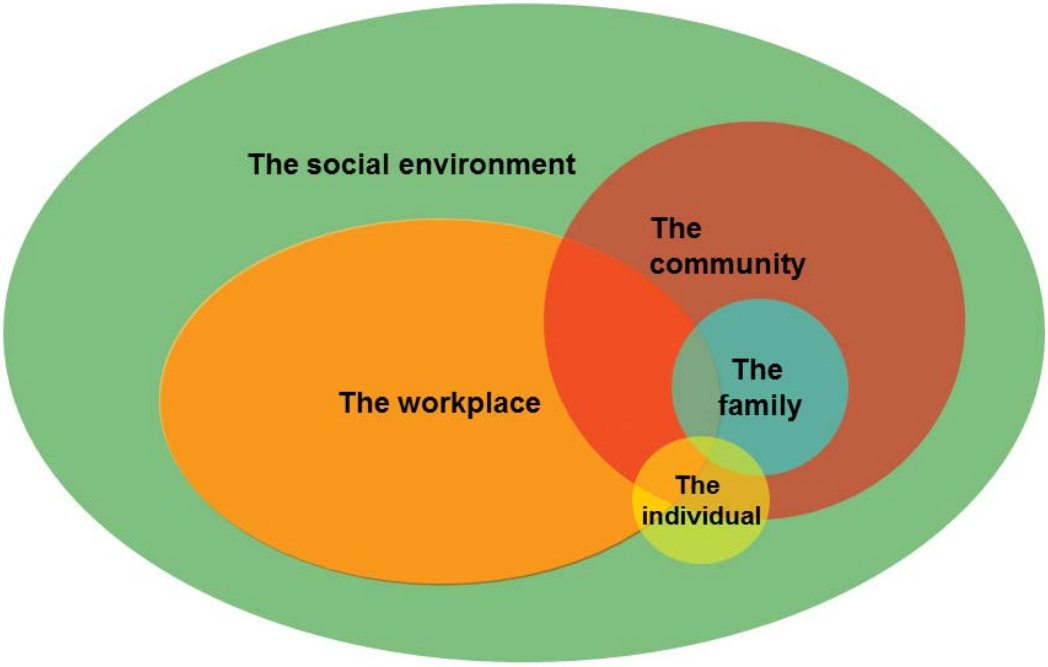


Figure 2.1: The ecological model (Adaptation from McLeroy et al., 1988)

The following factors make up for these complex interactions:

Intrapersonal Factors – individual characteristics within the person which are modifiable, such as knowledge, attitudes, skills, or actions which may or may not correspond to social expectations.

Interpersonal Relationships – relationships with family, friends, neighbours, co-workers and acquaintances, which can greatly influence how people behave with regards to their health. These relationships link the person with their family, their social environment, their work, and the community they live in.

Organizational Factors – organizations, such as work, professional or neighbourhood groups, school, or religious groups may have positive or negative effects on health. They can act as a source of unhelpful role models and false information about health, but they can also function as resources that support health promotion and help individuals make healthy choices. For long-term changes in the behaviour of individuals, the support of the workplace is essential.

Community Factors – these play a key role in defining and prioritizing health problems which need to be addressed, and in organizing the power and resources available to do so. This happens between more informal actors such as family and informal social networks, as well as between formal organizations working in the area. It is vital that these community agencies coordinate their actions and build on each other's strengths to achieve the most effective interventions for health.

Public Policy – meaning regulatory policies, procedures, and laws (whether at national, state or local level) which help protect the health of communities. Such

policies are increasingly addressing the areas of health promotion and the long-term chronic diseases associated with them. Creating public awareness of health risks and how to avoid them must also be part of a public policy.

The importance of the gender dimension

The increasing proportion of women in the workforce raises a range of gender-related questions about the different effects of work-related risks on men and women. Women workers are particularly disadvantaged by out of date workforce structures, workplace arrangements and attitudes. Therefore, general measures directed to all workers do not necessarily achieve the desired benefits for women workers.

The concentration of women workers in particular occupations leads to a specific pattern of injury and disease. There are also different effects for women and men; exposure to hazardous substances or of biological agents on reproductive health, the physical demands of heavy work, the ergonomic design of workplaces, psychosocial risks, and the length of the working day (specially when domestic duties also have to be taken into account).

The response is also different, for example, women's attitude to smoking is different from men's, women are more likely to be victims of physical violence but equally likely to be perpetrators of psychological violence; women and men have different eating and physical activity habits; women are more affected by occupational illness and men by serious accidents; there are more women in low control/high demand jobs which contribute to high levels of stress; more women than men suffer from occupational repetitive strain injuries (RSI) which are exacerbated by stress; and finally, more women than men suffer from sexual harassment at work.

In applying the ecological model, the relationship between health and gender roles, and between women's health and their social and economic roles should be acknowledged. When risk management and preventive measures at the workplace are implemented, women's predominant roles in childcare and at home need also to be taken into account. Health promotion policies incorporating the needs of working women have to take into account all three roles of women: as housewives, as mothers, and as workers. The effects on health of each of their roles have to be looked at and the potential conflicts and contradictions between them need to be considered in the design of workplace health promotion measures.

3. Why integrate health promotion into occupational safety and health policies?

The concept of health promotion originally comes from a public health perspective. The WHO definition of health promotion was adopted at the first International Conference on Health Promotion, held in Ottawa, Canada in November 1986. In the Charter which emerged from the conference, still regarded as one of the foundations for international agreement on health promotion, the workplace is clearly recognized as one of the key components in successful health promotion, when it states: "The way society organizes work should help create a healthy society. Health promotion generates living and working conditions that are safe, stimulating, satisfying and enjoyable." The Ottawa Charter also identifies the fundamental prerequisites for health.

The World Health Organization (WHO)

Ottawa Charter for Health Promotion (1986):

"Health promotion is the process of enabling people to increase control over, and to improve, their health.

To reach a state of complete physical, mental and social well-being, an individual or group must be able to identify and to realize aspirations, to satisfy needs, and to change or cope with the environment. Health is, therefore, seen as a resource for everyday life, not the objective of living. Health is a positive concept emphasizing social and personal resources, as well as physical capacities. Therefore, health promotion is not just the responsibility of the health sector, but goes beyond healthy lifestyles to well-being."

Prerequisites for Health

The fundamental conditions and resources for health are:

- peace;
- shelter;
- education;
- food;
- income;
- a stable eco-system;
- sustainable resources;
- social justice and equity.

Improvement in health requires a secure foundation in these basic prerequisites.

Source: Ottawa Charter for Health Promotion; reprinted in WHO, 2009.

These prerequisites for health promotion are consistent with the definition of occupational health adopted by the ILO/WHO Joint Committee of Occupational Health and the common approach of the ILO and the WHO:

"The promotion and maintenance of the highest degree of physical, mental and social well-being of workers in all occupations"

The Occupational Health Services Convention, 1985 (No. 161) defines the role of occupational health services at the workplace as having preventive and advisory functions and being responsible for assisting employers, workers and their representatives in establishing and maintaining a safe and healthy working environment which facilitates optimal physical and mental health at work. These functions include the adaptation of work to suit workers' capabilities taking into account their state of physical and mental health. Therefore, they also can play an important advisory role in workplace health promotion.

Other key ILO texts linking OSH and Public Health

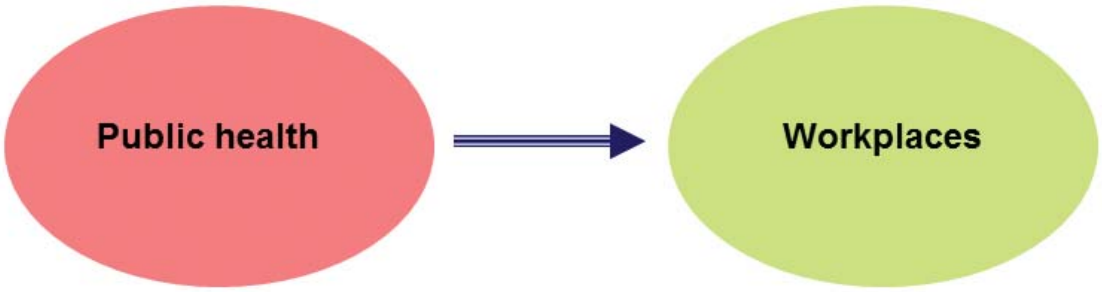
- Recommendation on Promotional Framework for Occupational Safety and Health, 2006 (No. 197):

"The national programme on occupational safety and health should be coordinated, where appropriate, with other national programmes and plans, such as those relating to public health"

- Health and life at work: A basic human right. ILO report for the World Day for Safety and Health at Work 2009:

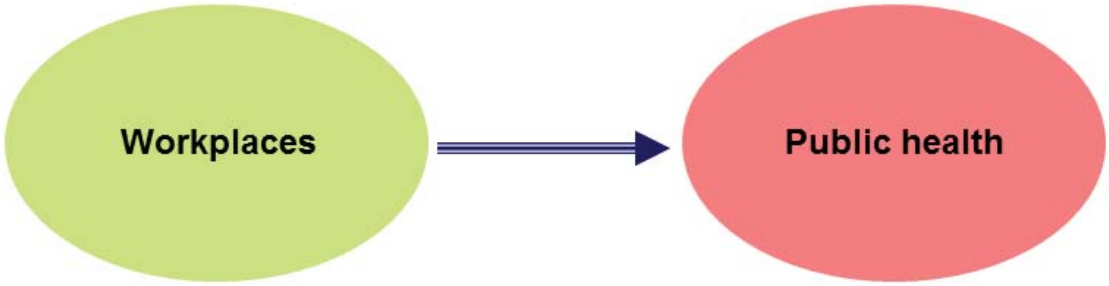
"Fundamental principles in core labour standards on OSH:
Health promotion at the workplace is an integral part of OSH practice."

How public health impacts on workplaces



It is not difficult to understand how poor public health affects workplaces when one considers workers' general health and well-being, as well as the costs for enterprises when workers are frequently sick or have long term disabilities. In the case of chronic, long-term illnesses, such as heart disease or cancer, skilled workers may be lost and hard to replace. Alternatively, workers who are often absent for health reasons may simply not be able to maintain and update their current skills to remain effective workers in the organization.

How the workplace impacts on public health



Working conditions are one of the many factors which determine public health. Many workers spend a large proportion of their waking hours at work, so the conditions in which they undertake that work can influence their health as much as their other living conditions do.

Public health and work-related concerns do not stand alone, or even occur only in the "logical" groupings mentioned above. In reality, each one of these can provoke imbalance in any of the other areas. For example, work-related stress can lead to lack of sleep, which in turn results in fatigue, burn-out or violence, abuse of alcohol or drugs to deal with prolonged stress. Therefore, a workplace health promotion programme which addresses, for example, alcohol consumption, but not the stress which is stimulating it is unlikely to be very successful, and the psychological violence which may be resulting from both problems will continue to increase in the workplace and reduce both morale and productivity. Equally, encouraging workers to do exercise such as cycle to work, but not improving the quality of the food available in the workplace will not have the expected optimal impact on health. Any health promotion programme at work must analyze the interrelated needs of the workers concerned, and address all the issues they face in an integrated way to have the desired impact, and justify the investment made. Just as it is evident from the above examples that these factors may generate a vicious circle in which they negatively influence each other, they can also influence each other positively; for instance, improved diet can slow down the progression of HIV and AIDS, regular physical activity may improve fitness and sleep, and loss of excess body weight can improve sleep disorders such as apnoea.

Smoking bans quickly reduce heart attacks

- in the first year after the ban: by 15 per cent
- after three years: by 36 per cent

Lightwood; Glantz, 2009.

Smoking bans quickly improve lung health of bar workers

- 26 per cent fewer bar workers had respiratory symptoms two months after the ban
- asthmatic bar workers had less airway inflammation and significantly improved quality of life, particularly at work.

Menzies et. al., 2006.

A recent example which illustrates this positive relationship is the banning of tobacco smoking at work. Smoking had until relatively recently been regarded largely as a matter of public health. Efforts to prevent smoking in many countries traditionally consisted in awareness raising campaigns, flanked by high taxes on tobacco products and attempts to restrict access to tobacco products for young people. These measures were not unsuccessful, but more recently workplace smoking bans have had a dramatic effect on overall smoking rates. These have usually overlapped with bans on smoking in public places, as it became clear that many public places were in fact also workplaces.

Changing working conditions in this case turned out to be the key to making a significant breakthrough on a major public health issue. Instead of allowing workplaces to be permeated by cigarette smoke which is known to damage the health of non-smokers, as well as of smokers, restrictions were imposed on where smoking could take place. The quality of air in workplaces was improved for non-smokers, and in addition, work organization often had to be adjusted. In some cases, smoking breaks

may have been created, and some employers created special areas dedicated to smoking used only by those who choose to smoke. As the figures in the box above show, the changes in working conditions often imposed such limitations on smoking opportunities that smokers either smoked less or indeed quit altogether and the benefits for public health were considerable and increase over time.

Why invest in Workplace Health Promotion (WHP)?

The basis of a successful enterprise is the people that work in it and its organizational culture. Healthy workers in a supportive environment feel better and healthier, which in turn leads to reduced absenteeism, enhanced motivation, improved productivity, improved recruitment, reduced turnover, a positive image and a consistent corporate social responsibility.

Examples of interactions

Poor health behaviours cluster: Data from the USA shows that people who regularly sleep less than the recommended 7-8 hours a night tend to smoke more, are more likely to be obese, are less physically active, and tend to drink more.

- 38 per cent of adults aged 18-44 who sleep less than 6 hours are smokers, compared to 21 per cent of those who sleep 7 to 8 hours;
- 33 per cent of adults who sleep less than 6 hours are obese, compared to 22 per cent of those who sleep 7 to 8 hours;
- 44 per cent of adults who sleep less than 6 hours are physically inactive, compared to 38 per cent of those who sleep 7 to 8 hours;
- 31 per cent of men who sleep less than 6 hours reported heavy drinking, compared to 27 per cent of those who sleep 7 to 8 hours.

Health behaviours and occupational health: A study of nurses and welders showed that workers who smoked and did not exercise were more likely to suffer from occupational lower back pain.

Schoenborn; Adams, 2008.

Studies in Europe on workplace health promotion show that every Euro invested yields a return on investment of € 2.5 to 4.8 in reduced absenteeism costs (BKK BV& HVBG, 1996).

Workplace health promotion programmes are an effective business investment as they can enhance and extend existing occupational safety and health programmes by contributing to keep workers fit and healthy, maintaining their ability to work and allowing them to remain active and productive members of society, while at the same time contributing to the well-being both of workers and their enterprises with more efficient and profitable working practices.

4. Managing health promotion at the workplace

The OSH management model

A risk management framework provides a useful diagnostic tool that enables enterprises to identify workplace hazards, assess the risks associated with each of them, and develop appropriate, customized solutions that fit within the wider health and safety policy of an enterprise.

Five core stages of the risk management process are identified:

- identification of the hazards;
- assessment of the risks;
- establishment of measures for risk reduction and control;
- monitoring the effectiveness of the measures undertaken;
- appropriate adjustment of those measures through continuous improvement.

After designing an OSH policy, certain organizational measures need to be put in place. These include defining responsibilities and mechanisms for accountability, organizing appropriate training, and setting up documentation and communication infrastructures to make the policy effective. Enterprises/organizations can then move to the planning and implementation of the policy and related strategies, evaluating them and taking action to make improvements based on the evaluation results.

A good guidance for implementing an OSH management system is to follow a continuous improvement cycle as in the ILO's "Guidelines on occupational safety and health management systems" (ILO-OSH, 2001).

When applying the continuous improvement cycle to workplace health promotion in general some additional steps are advisable. It is essential to define the health promotion needs adequately in order to find the appropriate solutions, for example concerning physical activity and exercise, improved diet and an adequate rest to keep workers healthy and productive. A greater acceptance of the health promotion programme, both by the management and workers and their representatives will be achieved when it meets their needs and expectations. Managers will also need good arguments to commit resources.

Given the important overlaps between OSH and health promotion, it makes sense to use and expand the structures already in place for safety and health to incorporate health promotion. For example, joint health and safety committees involving worker representatives and management are a standard practice and are even required by law in many countries. Such committees already have procedures, personnel and practices in place to deal with safety and health issues. It is more efficient to integrate the related area of health promotion into these existing structures than to create something entirely new. At the same time, care must be taken not to overload the system, as it may still be necessary to allocate some resources to the new health promotion tasks. This will help to avoid a further pitfall: health promotion should not be seen merely as a modern "add-on" which is not taken seriously. While making good use of existing structures, it should have weight of its own and be recognized as making a valuable contribution to health, safety and productivity in the company. This can be achieved by emphasizing the real complementarities between occupational safety and health and workplace health promotion, as outlined above.

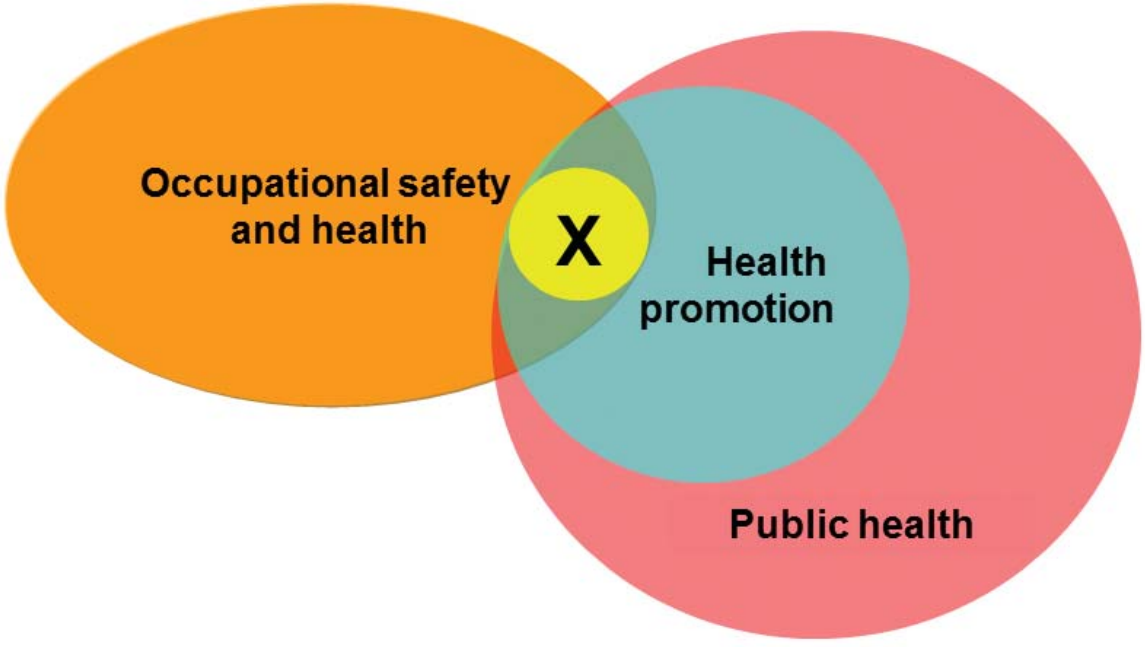


Figure 2.2: Workplace health promotion and OSH

The European Network for Workplace Health Promotion (ENWHP)

The European Network for Workplace Health Promotion (ENWHP) is an association of governmental occupational health and safety institutions and public health service bodies from all Member States of the European Union and the European Economic Area (EEA). This network is responsible for the implementation of the Luxemburg Declaration on Workplace Health Promotion in the European Union. Since its creation in 1996, the aim of the ENWHP has been to facilitate and coordinate the exchange of good practices and information on work and health both within and between all fifteen EU Member States. This has been done in order to encourage the development of common strategies, policies and processes that will lead to improvements in the health and safety of people at work, healthier lifestyles and enhanced levels of employability across Europe (ENWHP,2001).

The Luxembourg Declaration on Workplace Health Promotion in the European Union

Workplace Health Promotion (WHP) is the combined effort of employers, employees and society to improve the health and well-being of people at work.

This can be achieved through a combination of:

- improving the work organization and the working environment
- promoting active participation
- encouraging personal development

The 5 phases of Workplace Health Promotion (WHP) Management

One of the most important elements in the successful implementation of workplace health promotion is the continued commitment from all sides. Therefore, as in the implementation of a management system, management commitment is essential for avoiding a conflict between the WHP programme and OSH management practices. It's also important to integrate staff at all levels and to encourage a maximum participation during all stages of the WHP programme's implementation, and it is essential to combine the needs of the organization with those of the workers. As with any management process each enterprise should tailor the core principles of WHP to their own needs.

The five phases of WHP management include:

1. Preparation

Establish a task force responsible for planning and implementing the WHP programme. It should include representatives from senior management, the staff committee, human resources department, and the occupational health and safety service and committee.

Inform everyone about the WHP programme using different communication channels, such as posters, notice boards, intranet, and meetings.

Make sure legal requirements on health and safety at work are followed. WHP is only effective when occupational hazards and risks are managed successfully.

2. Planning

Assess the needs. You can maximise the effectiveness of a WHP programme by assessing workers' needs and expectations. Options to do this include:

- focus groups;
- surveys conducted by online questionnaire;
- tying-in the assessment with existing similar actions.(e.g. including questions on health and well-being into a risk assessment survey);
- reviewing the existing data: company statistics, such as work force demographics, absenteeism, turnover rates, and other health data from occupational health surveillance or
- voluntary health screening might indicate areas where action is needed.

Decide on priorities. Identify the specific goals of the WHP programme and set priorities accordingly. These goals may include:

- enhancing work-life balance,
- reducing musculoskeletal complaints,
- promoting a healthy lifestyle in general.

Connect to risk prevention activities. Wherever possible, WHP planning and interventions should be integrated into risk prevention activities.

Integrate existing successful health activities, such as running groups, into the WHP programme.

Implement a coordinated programme rather than running several disconnected interventions.

Involve intermediary organizations, if necessary, and take advantage of any offers, materials or initiatives. These could include:

- statutory accident insurance companies offering, for example, reduced premiums to organizations implementing WHP programmes,
- health insurance plans offering members a refund if they enrol in a sports club or course,
- taking advantage of insurance cover to treat workers for tobacco dependence.

Give opportunity to all workers. Avoid producing inequalities by, for example, not taking into account the timetables of all workers. It might also be worth considering how to communicate with those without email accounts.

Think about evaluating the outcome before starting the process. Monitoring the signs of success or failure will help to evaluate and improve the programme if necessary.

3. Implementation

Get active and visible support from senior, middle and ground management. This is one of the most important factors in creating a healthy workplace culture.

Engage workers as much as possible. The better you match the WHP programme with workers' needs, the less you will need to promote it. Incentives tailored to your organization can be useful for changing to a healthy culture within your organization. These may include:

- financial inducements and donations towards the cost of external social or sporting activities,
- time off for participation,
- competitions and prizes to honour and reward participation in WHP programmes.

Adapt information and training materials to the target audience. The degree of complexity, detail, and reading level should be appropriate for your audience. Ask for feedback.

4. Evaluation

Analyse the impact of the WHP programme:

- on staff satisfaction by, for example, conducting a survey,
- on relevant economic factors, such as staff turnover, productivity, and rates of absenteeism.

Evaluate the financial benefits of the WHP programme.

Communicate the results of your evaluation: inform people about your successes and the changes that you plan to make in the future.

5. Review and update: ongoing implementation (principle of continuous improvement)

Do not stop planning and improving: good WHP is a continuous process,

Understand the detailed results of the evaluation when planning for the future.

Remember:

- There is no point in implementing a WHP programme without also offering a safe and healthy working environment. WHP is based on a healthy culture first of all requiring proper risk management.
- Workplace health promotion goes beyond legal requirements. It is based on voluntary action on both sides.
- WHP can only be successful if it is integrated as a permanent component in all organizational processes.

Some examples of Workplace Health Promotion measures[1]:

Organizational measures:

- offering flexible working hours and workplaces,
- enabling workers to participate in the improvement of their work organization and their work environment,
- giving workers opportunities for lifelong learning.

Environmental measures:

- providing social rooms,
- providing a comprehensive smoking ban,
- providing a supportive psychosocial work environment.

Individual measures:

- offering and funding sports courses and events,
- encouraging healthy eating,
- offering smoking cessation programmes, and
- supporting mental well-being by, for example, offering external anonymous psychosocial advice, counselling, and anti-stress training.

[1] Adapted from: *Workplace Health Promotion for Employers*, Facts 93, © European Agency for Safety and Health at Work
Available at: http://osha.europa.eu/en/publications/factsheets/93

An example of good practice: The Irish National Health Promotion Strategy

In July 2000, the Irish Ministry for Health and Children launched the Health Promotion Strategy for 2000-2005. This strategy defines the objectives that contribute to the overall health improvement of the Irish population.

After a review of the most recent developments and policies put in place both internationally and nationally, it gives an overall picture of the status of health in Ireland providing data on the impact on health of both external/structural factors – such as unemployment and income adequacy or access to health services – and lifestyle behaviours – such as smoking, nutrition, use of alcohol, exercise or sexual behaviour.

On the basis of this analysis, the strategy highlights future action to address: mental illnesses, cardiovascular diseases, cancer, unhealthy diets, smoking, alcohol and drugs, HIV and AIDS and other sexual transmitted diseases, as well as road traffic accidents.

Those actions are targeted to men, women, the elderly, children and youth in different settings, such as workplaces, schools, health services and within the community.

The strategy also calls for greater inter-sectoral and multi-disciplinary approaches to address the impact which social, economic and environmental factors have on the physical, mental and social well-being of individuals and communities.

A monitoring and evaluation process was put in place to ensure the periodical review of the strategy to ensure its continuous improvement.

The National Health Promotion Strategy can be found at:
http://www.injuryobservatory.net/documents/National_Health_Promotion_Strategy_2000_2005.pdf

Source: The National Health Promotion Strategy, 2000-2005, Ministry of Health - Department of Health and Children.

Bibliography

- Convention on Promotional Framework for Occupational Safety and Health, 2006 (No. 187).

- Recommendation on Promotional Framework for Occupational Safety and Health, 2006 (No. 197).

- American Diabetes Association. 2008. “Economic costs of diabetes in the U.S. in 2007” in *Diabetes Care* Vol. 31, No. 3, pp. 596-615.

- Deal, T. E.; Kennedy, A. A. 1982. *Corporate Cultures: The Rites and Rituals of Corporate Life* (Harmondsworth, Penguin Books).

- Edington, D. W. "Emerging Research: A View from One Research Center" in *American Journal of Health Promotion*, May/June 2001, Vol. 15, No. 5., pp. 341-349.

- European Network for Workplace Health Promotion (ENWHP). *WHP in Europe.* “Healthy Employees in Healthy Organisations: Recommendations for Promoting Workplace Health Action”. Federal Association of Company Health Insurance Funds (BKK), Essen/Germany. Essen, June 2001.

- Henning, R.A., Jacques, P., Kissel, G.V., Sullivan, A.B. and Alteras-Webb, S.M. 1997. “Frequent short rest breaks from computer work: effects on productivity and well-being at two field sites” in *Ergonomics* Vol. 40, No. 1, pp. 78-91.

- Hill, C. W. L. and Jones, G. R. 2001. *Strategic Management* (Boston, Houghton Mifflin).

- International Labour Office. 2001. *ILO Guidelines on occupational safety and health management systems, ILO-OSHMS* (Geneva).

- —. 2009. *Health and life at work: A basic human right. World Day for Safety and Health at Work 2009* (Geneva).

- Joint ILO/WHO Committee on Occupational Health. 1995. *Report of the Committee. 12th Session, Geneva, 5-7 April 1995* (Geneva).

- Lightwood, J.M.; Glantz S.A. 2009. “Declines in Acute Myocardial Infarction After Smoke-Free Laws and Individual Risk Attributable to Secondhand Smoke” in *Journal of the American Heart Association* 120:1373-1379.

- McLeroy, K. R.; Bibeau, D.; Steckler, A.; Glanz, K. 1988. “An ecological perspective on health promotion programs” in *Health Education Quarterly*, Vol. 15, pp. 351-377.

- Menzies, D.; Nair, A.; Williamson, P.A.; Schembri, S.; Al-Khairalla, M.Z.H.; Barnes, M.; Farden T.C.; McFarlane, L.; Magee, G.J.; Lipworth, B.J. 2006. “Respiratory symptoms, pulmonary function, and markers of inflammation among bar workers before and after a legislative ban on smoking in public places” in *Journal of the American Medical Association* Vol. 296, No. 14, pp. 1742-1748.

- Schoenborn C.A. and Adams P.F. 2008. “Sleep duration as a correlate of smoking, alcohol use, leisure-time physical activity, and obesity among adults: United States 2004-2006” in *Health E-Stat May 2008*, (internet only) http://www.cdc.gov/nchs/data/hestat/sleep04-06/sleep04-06.htm Accessed 26th May 2010.

- Vieira, E.R.; Kumar, S.; Narayan, Y. 2008. “Smoking, no-exercise, overweight and low back disorder in welders and nurses” in *International Journal of Industrial Ergonomics* Vol. 38, pp. 143-149.

- World Health Organization. 2009. *Milestones in Health Promotion: Statements from Global Conferences* (Geneva).

- Zarate, A.; Crestto, M.; Maiz, A.; Ravest, G.; Pino, M. I.; Valdivia, G., Moreno, M. Villarroel, L. 2009 “Influence of obesity on health care costs and absenteeism among employees of a mining company” in *Revista Médica de Chile*, Vol. 137, No. 3, pp. 337-344.

Websites

- European Agency for Safety and Health at Work/Workplace Health Promotion
  http://osha.europa.eu/en/topics/whp

- European Network for Workplace Health Promotion
  http://www.enwhp.org/

- Health-related and economic benefits of workplace health promotion and prevention,
  © BKK BV and HVBG 1996
  http://www.iga-info.de/fileadmin/texte/iga_report_3e.pdf

- Maltese Occupational Health and Safety Authority
  http://www.ohsa.org.mt/

- UK Department for Work and Pensions/Health, Work and Well-being
  http://www.workingforhealth.gov.uk/

- Workplace Health Partnership Website
  http://www.workplacehealth.ie/

- World Health Organization/Health promotion
  http://www.who.int/topics/health_promotion/en/

Work-related stress

1. Introduction

The term stress is used in countless ways today, describing everything from feeling ill in the morning to anxiety leading to depression. In some circles it has both negative and positive connotations. Within the context of the SOLVE approach, stress will only be considered as having a negative impact. When one is pushed to excel by the demands of work and everyday life, this is **not** considered stress, but rather, motivation towards achievement.

Stress is caused by an imbalance between the perceived demands and the perceived resources and abilities of a person to cope with those demands. Work-related stress is the harmful physical and emotional response that occurs when the demands of the job do not match or exceed the capabilities, resources, or needs of the worker.

Figure 3.1 shows the relationship between performance and pressure. Initially, as pressure increases, so does performance. Pressure or demand is positive up to a point; however, beyond this peak, pressure becomes negative or stressful, performance then decreases, and the long-term result is burnout.

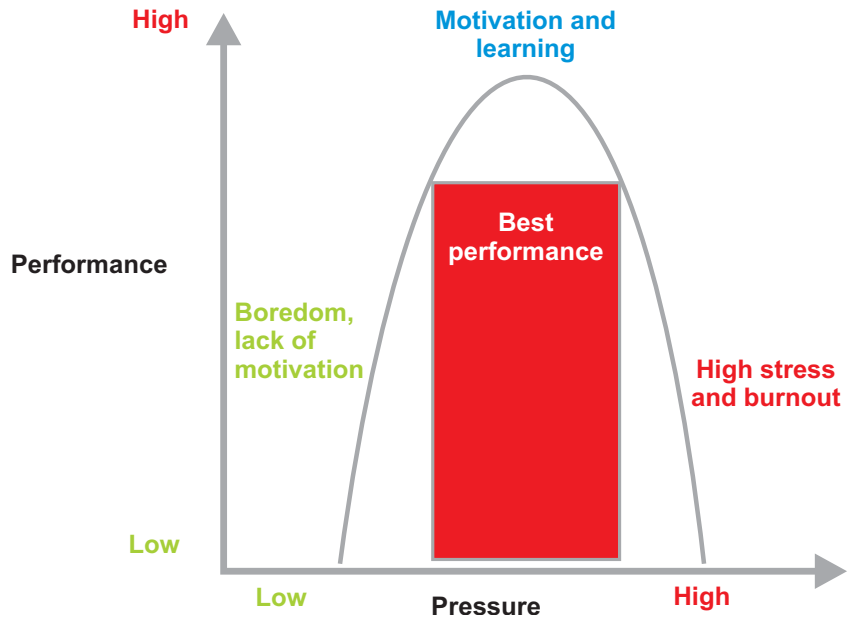


Figure 3.1: The relationship between achievement and stress

Stress is a natural phenomenon. It can be defined as any emotional, physical, social, or economic factor that requires a response or a change from an individual. It is a defense mechanism that has, in many ways, assured the survival of the human species. However, today, prolonged stress is destructive and debilitating.

Work-related stress is determined by work organization, work design and labour relations. It emerges when the knowledge and abilities to cope of an individual worker or of a group are not matched with the expectations of the organizational culture of an enterprise.

The pace of modern life has grown considerably as compared to 20 years ago. People are connected through telephones, email, the internet and other means of electronic communication. With so many ways of communicating we are potentially accessible 24 hours a day. Many people read their professional emails not only at work, but also at home and while on vacation.

While a worker was once able to close the door when leaving their work-station and forget about work, today many fear that work will go on without them and leave them behind. Work is inserting itself into life at home or during social or family events. The lines separating work from life at home are becoming more and more difficult to identify.

With the pace of work dictated by instant communications and high levels of global competition, many workers are feeling that work and life are shaped by urgencies and perceive that they are no longer capable of controlling the demands that are placed on their shoulders.

Workers in the informal economy may have an even more difficult time separating the demands of work from everyday life, as their ability to financially survive may depend on a massive workload and unpredictable working conditions.

In uncertain or precarious work, or when companies are closing, adjusting or downsizing, workers may perceive a threat to their financial well-being. They may wonder if they will be financially stable enough to buy food, pay for housing, clothe their families and pay for the daily expenses of survival. The need to stay in work to ensure a steady income may lead to many personal compromises.

Stress can result in physical, psychological or behavioural reactions. As stress increases, the individual may not be able to cope. Some may suffer from anxiety disorders, some from serious depressions, and some may suffer from burnout, where the individual may lose any interest in work or life, and feel totally discouraged. Stress can also lead to increased blood pressure and changes in diet, increasing the risk of medical conditions such as heart disease and stroke.

In some occupations, such as the emergency services, workers may be exposed to situations of extreme emotional stress, for example when dealing with an accident involving loss of life. As a result, they may suffer from Post-Traumatic Stress Disorder (PTSD). Special measures need to be in place to help these workers cope with this kind of stress.

As with other SOLVE issues, stress is not just work-related. Many life events can create stress for the individual. This stress and the resulting behaviour can end up being evident at work. Events such as the loss of a spouse, divorce, separation, losing one's job, becoming pregnant, becoming sick or injured, or taking on a serious debt such as buying a house, all lead to increased personal demands over which one may or may not have adequate control.

2. Understanding stress

Stress as a human reaction

Stress is a natural, protective, defense mechanism that has assured our survival over the millennia. In a natural setting, for example, when humans were hunters, fishermen or gatherers of food, stress provoked a series of reactions in our bodies that allowed humans to deal rapidly with potentially dangerous situations and survive.

The General Adaptation Syndrome was first described by Hans Hugo Bruno Selye in 1936. He suggested that there are three stages to stress: alarm, adaptation and exhaustion.

When a person senses danger, the brain sends signals to other parts of the body to prepare to "fright", fight or flee. These are some of the signals:

- the heart beats faster, blood pressure and pulse increase and breathing becomes more rapid, more oxygen goes to the muscles for action and to the brain for rapid thinking;
- fuel or nutrients (in the form of glucose and fatty acids) are released from stored fats in the body for further readiness to fight or flee;
- the body produces platelets that aid clotting and white blood cells that fight infection in the bloodstream;
- in order to prioritize this fight or flight mechanism, the body diverts blood from the digestive system, reproductive organs, skin and other functions not essential for immediate survival to the muscles;
- as blood is also naturally diverted from the skin and mouth, one begins to transpire, while saliva production is decreased, the mouth becomes dry and it becomes difficult to talk.

These physiological responses assured human survival in the face of danger. After the danger passed, the person who had faced danger would be exhausted and would find a place to rest while all systems returned to normal.

Today, however, due to modern conditions with high levels of demand and a lack of perceived control over prolonged periods of time, the same system is activated, but the individual often does not have a chance to rest long enough to allow the systems to return to normal. There are physical, psychological and behavioural symptoms of stress. Even sleep, which helps the body achieve normal functioning, may be interrupted or disturbed by anxiety or work organization.

The Table 1 on the next page shows some effects of stress on humans which can result in ill-health (the table should not be considered exhaustive).

Table 1: Symptoms of stress

Physical symptoms	Psychological symptoms	Behavioural symptoms
• Sleeplessness • Fatigue • Reduced immunity to infection • High blood pressure • Chest pain • Thirst • Weight disorders • Increased cholesterol • Skin disorders • Back pain • Loss of libido • Headache	• Anxiety • Memory loss • Confusion • Discouragement • Frustration • Isolation • Insecurity • Pessimism • Depression	• Hypersensitivity • Anger • Withdrawal • Risk-taking • Absenteeism • Drug or alcohol abuse • Impatience • Problems with interpersonal relations • Mood swings • Gambling • Promiscuity

Source: Brun, 2005.

Definitions of work-related stress

"People experience stress when they perceive that there is an imbalance between the demands made of them and the resources they have available to cope with those demands. Although the experience of stress is psychological, stress also affects people's physical health."

EU-OSHA Observatory, 2009.

"Job stress can be defined as the harmful physical and emotional responses that occur when the requirements of the job do not match the capabilities, resources, or needs of the worker. Job stress can lead to poor health and even injury."

Stress at work, United States National Institute of Occupational Safety and Health, 1999.

"By the term work related stress we mean the process that arises where work demands of various types and combinations exceed the person's capacity and capability to cope. Think of this as 'bad work'. It is a significant cause of illness and disease and is known to be linked with high levels of sickness absence, staff turnover and other indicators of organisational underperformance, including human error."

HSE (Health and Safety Executive), 2010.

"Stress occurs when the perceived pressure exceeds your perceived ability to cope."

Palmer et al, 2003.

Models

There are a number of models that describe stress, and work-related stressors, some of which are described here. They include the Demand and Control Model by Robert Karasek, the Ecological Model (as in, for example, the work of Daniel Stokols), Abraham Maslow's Hierarchy of Needs and Palmer's, Cooper's and Thomas' Model of Work Stress.

The Demand and Control Model

Robert Karasek's model describes the characteristics of workers' tasks that are associated with psychological stress. This model is based on three variables:

1. Job decision latitude or control.
2. Psychological demands.
3. Social support.

According to this model, it is not only the psychological demands of work that lead to stress and related illnesses, but also a situation of high perceived demand, combined with low perceived control over the work process. Stress occurs when workers are prevented from responding to a stressor according to their own optimal psychological and physiological response pattern because of external factors over which they have no control.

Using the model four situations can be identified:

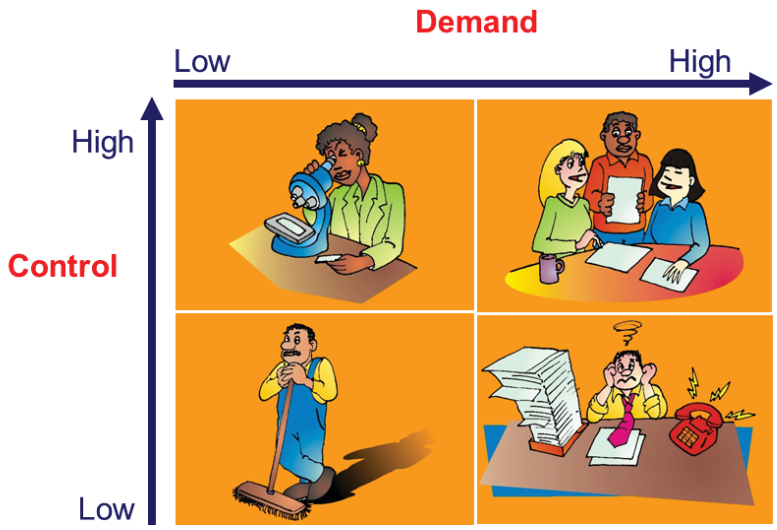


Figure 3.2: The Karasek Model

1. **Low control – low demand** or passive situation where workers have enough control and the demand is not too high. This leads to little stress. It may however result in demotivation and loss of skills.

2. **Low control – high demand,** or high strain situations where workers have little control but demand is high. This leads to stress.

3. **High control – low demand** or relaxed or low-strain situations where workers have high control and demand is low. This leads to little stress, but again can be demotivating.

4. **High control – high demand** or active situation where workers have a high demand for their services and high control. This leads to situations where most people feel they can manage.

Social Support

Social support is the third variable of the Demand and Control Model. It happens when a person or a group of people provide recognition, support and appreciation, and help someone find their way through the complexities of everyday life. Those providing social support encourage the individual worker by listening, comforting and lending a hand. They may be from within the workplace, but they may also be family or friends. With people providing social support the worker will feel better and become more resilient and able to cope. They will feel more control and stress levels will diminish.

Social support works in both directions: the person giving social support will also feel positive about what they are doing for a friend or colleague. This kind of support is an important factor for remaining healthy. Receiving and giving appreciation and praise may also increase the giver's and the receiver's self-esteem. Through social support a sense of mutual solidarity can develop.

The use of this model

Each worker can identify where they are in the model by considering their own levels of control and demand. This can then help identify the source of stress, which may be too much demand, or perhaps not enough. With this information, workers and managers can begin to look for solutions to the problem, rather than feeling helpless when faced with a stressful situation.

A dynamic approach to using the Karasek model

Stress is not a static situation: stress levels will change as control, demand and social support change. Stress is therefore not an inevitable part of work as some of the factors that produce it are open to change, often making stress preventable.

- Stress *increases* if control drops and demand rises.
- Stress *decreases* if control rises and demand decreases.
- Stress *decreases* if social support increases.

Social support and social interaction at work contribute to stress reduction. The following aspects of social support are important:

- quality of relations: the extent to which someone gets on with colleagues or works in a workplace with a good social climate, e.g. being able to communicate with colleagues about everyday matters or make jokes;
- perceived social support: the extent to which someone thinks they can rely on others for social support;
- actual social support: the extent to which social support is in fact provided.

The ecological model and stress

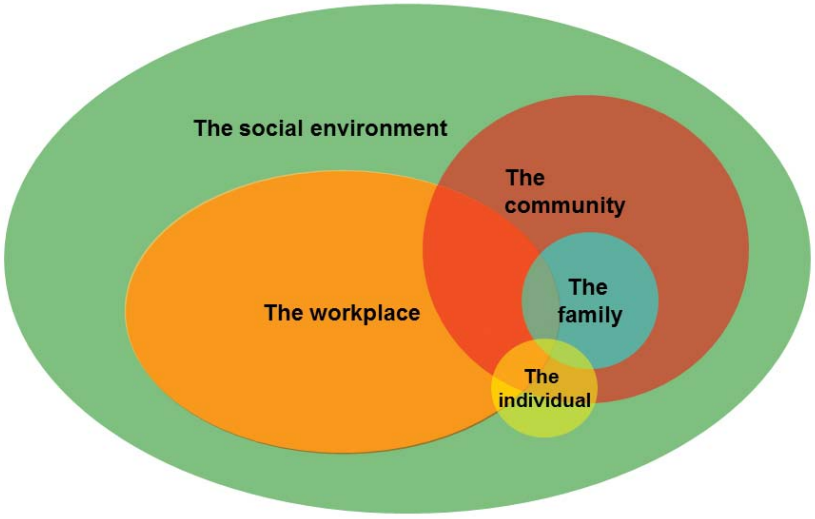


Figure 3.3: The ecological model

Psychosocial factors causing stress must be seen from different perspectives. The causes of stress may have their origins at work, at home, in the social environment or in the community (the term community in this context may be local, provincial or even national). In each of these environments there may be one source or more of stress or resources that contribute to preventing or reducing the impact of stress. The outcomes of stress may also impact on any of these environments; therefore, stress at work cannot be taken in isolation. Psychologists use the ecological model to explain this interrelationship.

The person

At an individual level everyone is affected at one time or another by stress. Although occupational stress is by no means a new phenomenon, it is becoming increasingly globalized and affects all categories of workers.

A number of factors may increase vulnerability to stress. These include:

- age;

- gender;
- disability;
- socio-economic status.

A combination of stress factors both at work and outside the workplace is often responsible for bringing individuals closer to the point where they can no longer cope with work-related stress.

The relationship between gender, work and stress is complex. Several factors magnify the impact of stress on women, including the significant role that women play in family care. The total daily workload of women who are employed full time is often higher than that of full-time male staff, particularly where they have family responsibilities, because their work continues at home unpaid.

In addition to their family responsibilities, other factors also tend to make women more vulnerable to work-related stress:

- lower levels of control in their jobs, since the great majority of women still tend to occupy less senior positions than men;
- more women than men work in precarious forms of employment;
- more women than men work in high-stress occupations, such as nursing, teaching, banking or helpdesk services.

The family

One combination of factors that may raise the level of stress is the interaction between work and family life. This is particularly true in families in which both parents work, as well as in single-parent families.

It may become difficult to achieve a balance between work and family life; difficult issues include abrupt changes in work schedules, time-pressured work, unsympathetic treatment by management and co-workers, and a lack of control over the content and organization of work. Shift work and irregular working hours are particularly difficult to manage in relation to family routines and events. People who work from home, and those who use information technology to work when not at their main work site (teleworkers), may face the challenge of fitting work and family life around each other in atypical ways. Fast paced and intensive work increases the conflict between working and family roles.

It should also be noted that at the same time family can potentially be a source of social support, providing one with the means for coping with the difficulties related to work-family balance.

The community

The ability of an individual or a group to socialize with others can have a direct impact on stress. As suggested by Karasek and others, one of the keys to reducing stress is

social support, which may present itself in a number of different ways. In some cultures, the community embraces the extended family where immediate family, cousins, aunts, uncles and friends, usually live and work close to each other and frequently come together and provide support for each other. In other cultures, people rely on immediate family members, friends, people they meet at social clubs and sports activities, and work colleagues to provide help through difficult situations. Their help can be very valuable in solving problems and building confidence.

The social environment

The **social environment** can help to prevent stress and related psychosocial risks such as addictions and violence. Because psychosocial hazards are interrelated, workplace, community and social action to address one risk, such as stress, can also contribute in reducing another risk, such as smoking.

The **social environment** can play three major roles: framework legislation, policy design, infrastructure and health promotion:

1. The broader social environment (at a national or local level) may develop and promote laws, regulations and policies that include ways of dealing with psychosocial issues and therefore reduce or eliminate potential stressors. For example, the **social environment** may have legislation that deals with issues such as alcohol and tobacco consumption, which also impact on work. The enforcement of such legislation may contribute to lower levels of work-related stress, in a safer and healthier working environment.
2. The **social environment** infrastructure can contribute to reducing stress by reducing other psychosocial problems. Such services can include improved public transport; sports and leisure facilities; community support for social services to deal with specific problems such as alcohol abuse; violence and tobacco consumption; educational activities in schools and in the community, as well as nutritional programmes.
3. The **social environment** can also play a significant advocacy role in promoting ways to reduce stress in the family, at school and at work. It can provide health professional support, self-help literature, or information on where to find help.

The workplace

Globalization brought dramatic changes in the world of work concerning:

- new and more complex technologies, in particular in communications;
- new forms of work organization, such as changes in work intensification, in working time arrangements, out-sourcing and fragmentation of production processes, and with the crisis, organizational restructuring, job insecurity and higher demands;
- new forms of employment such as temporary, part time and home-based work and precarious employment;

- changes in the composition of the workforce due to demographic and political changes related to migration, the ageing of the workforce, young workers lack of access to employment and an increasing number of workers in the informal economy.

In this context the workplace has become an important source of psychosocial risks and poor work-life balance.

The workplace can help prevent stress through matching the capabilities of workers with the workload and tasks assigned to them. A certain degree of stress is recognized to be a precursor for motivation and essential for drive and engagement with work. However, a point can be reached where this initial stress that drives performance becomes too much. Unfortunately, often we only are aware that a stress limit has been reached once the negative effects of it have affected our work. Several factors such as, increased competition for positions in the workplace, higher expectations on levels of performance, longer working hours and job insecurity have contributed to the working environment becoming an ever more stressful place. Employers should be aware of the negative effects stress can have on workers and of the environmental stressors that may affect them as a result of overwork and lack of control over their tasks and result in work-related stress (e.g. burnout).

Therefore, measures undertaken at the workplace level need to be managed with a multi-pronged approach by:

- implementing collective risk assessment and management measures – as it will be done with other workplace hazards – by adapting work organization and working conditions;
- increasing the coping ability of workers; and
- building up social support systems for workers within the workplace.

The workplace can offer some alleviation and allow workers to become more productive without enduring the effects of negative stress. For this purpose, the assessment of work-related stressors should be incorporated in risk assessment and management measures as with other workplace risks. Offering avenues to adapt to external stressors, e.g. flexible working times in consideration of family and work-life balance, micro finance schemes in consideration of the social environment or training schemes for personal development could complement these measures.

Maslow's hierarchy of needs

Each person has certain needs and motivations, which were studied by the American psychologist Abraham Maslow. He was interested in the qualities of people who get the most out of life and what motivates them. In this model, stress occurs when people's needs are not met.

Maslow's theory begins with the idea that people are motivated by unsatisfied needs. Lower-level needs (see figure 3.4) need to be met before an individual can consider higher-level needs. There are basic needs such as physiological needs, safety, and social needs that must be satisfied in order for a person to act unselfishly. If people are motivated, they move toward self-actualization. Satisfying needs is normally considered healthy, while blocked needs result in illness, frustration or negative acts.

Socially and professionally it is important to understand what motivates others and what frustrates them. This model can help identify sources of stress. For example, if a worker's basic safety needs are not met because they are working in an unsafe environment, they will suffer from increased stress, which in turn can lead to accidents. Or if a worker's social needs are not being met due to an unfriendly working atmosphere because of mobbing, they may lack motivation and self-esteem. Alternatively, a positive workplace can encourage workers to want to perform well in order to be more self-fulfilled.

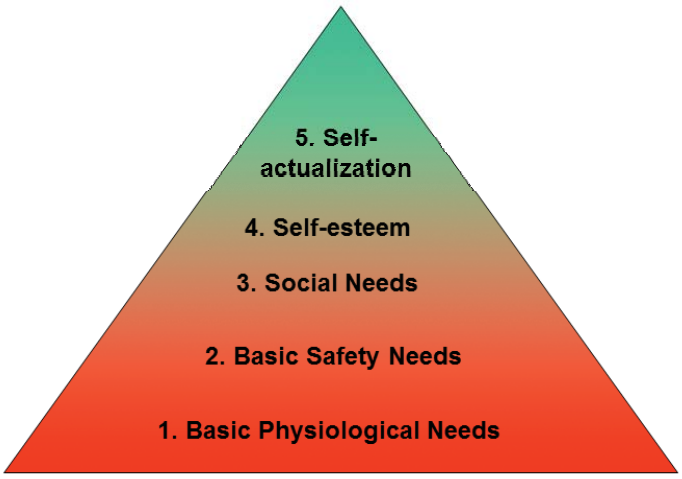


Figure 3.4: Adaptation of Maslow's Hierarchy of Needs

1. **Basic Physiological Needs**: at the base of the pyramid are the basic needs for survival such as air, food, water and warmth.
2. **Basic Safety**: a safe, non-threatening and healthy environment, including personal security and economic stability.
3. **Social Needs**: companionship, friendship and acceptance from others. At work being part of a group or a team.
4. **Esteem Needs**: the need for a sense of control and possibly power. Need for appreciation, recognition and respect from others.
5. **Self-actualization**: feeling connected to one's surroundings through opportunities for learning and creativity.

An individual generally must address lower-level needs before they can move onto other needs. For example, if an individual is cold, wet, hungry and in the dark, they are very unlikely to be thinking about whether or not they are being appreciated or recognized for their achievements.

Model for organizational stress

Stress at work is a result of exposure to psychosocial and organizational hazards in the workplace.

In a model proposed by Palmer, Cooper and Thomas in 2001, and further applied in 2003, a number of potential hazards are linked with symptoms, outcomes and financial costs. The authors noted that the figures used in the model for costs are underestimated.

People often feel helpless in the face of stress at work. One advantage of this model is that it opens up a recognized route towards solving the problem, by using the well-established techniques of risk assessment and risk management. The model was used to create a structured stress risk assessment consisting of five steps, which linked seven key hazards to stress-related outcomes.

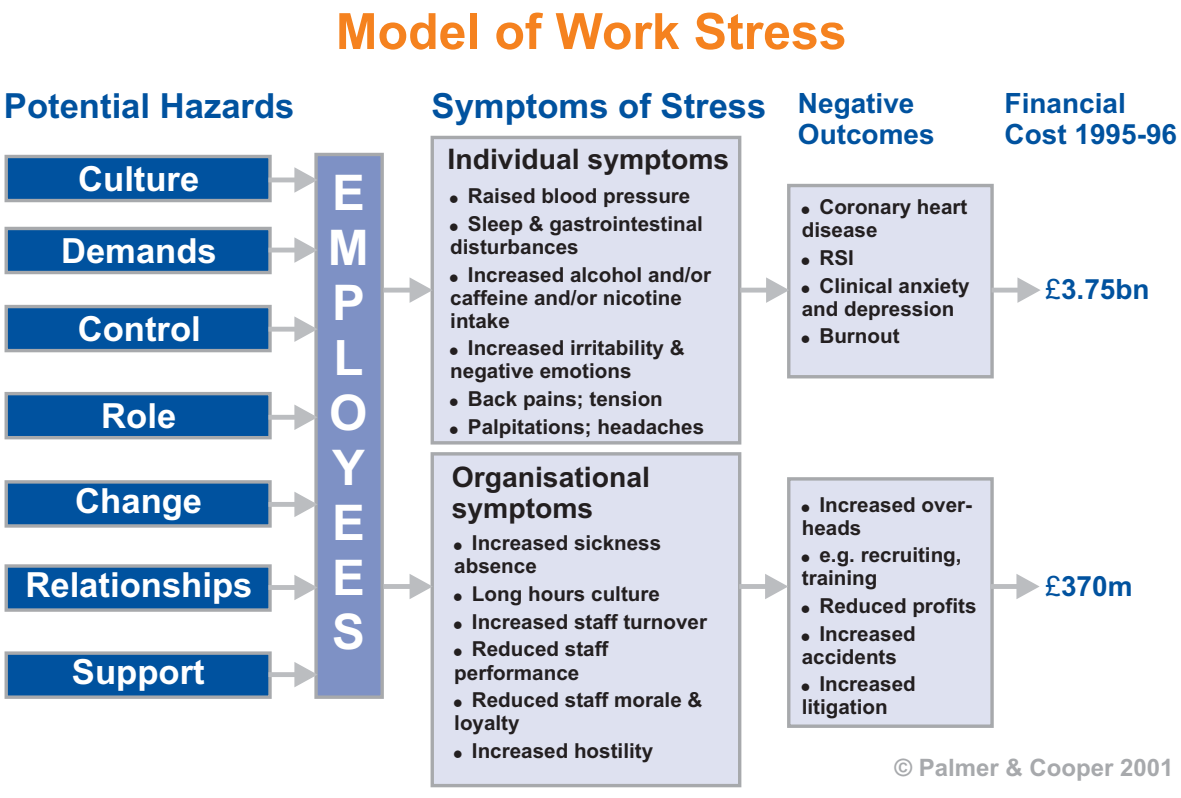


Figure 3.5: Palmer's, Cooper's and Thomas' model of stress

3. Impact

Stress at work, often complicated by stress at home or in the community, can have a major effect on health, safety and general well-being at work. Stress may be caused by or may lead to a number of other different psychosocial disorders.

Workplace stress has become a widespread problem due to new forms of work organization, working relations and employment patterns. A recent study by the European Agency for Occupational Safety and Health (EU-OSHA) found that on average 22 per cent of the European workforce is under stress, with levels markedly higher in the newer member States (30 per cent) than in the older member States (20 per cent). Stress was most prevalent in the education and health sectors, as well as in agriculture, hunting, forestry and fishing (28.5 per cent). The largest group of workers who suffered from anxiety at work were those employed in education and health (12.7 per cent), public administration and defence (11.1 per cent) and those in agriculture, hunting, forestry and fishing (9.4 per cent). (EU-OSHA, 2009).

Stress and health

Stress-related behaviour can determine illness or health; it can even determine life or death. High levels of stress impact on our well-being, our health and, in the end, our lives.

Estimates of the cost of work-related stress

- In 2002, the European Commission reported that the yearly cost of work-related stress in the EU15 was EUR 20,000 million each year.
- In the United Kingdom, it has been suggested that over 70 million days are lost every year through poor mental health. In 2005/06 work related stress depression and anxiety cost Great Britain in excess of £530 million.

Source: EU-OSHA, 2009.

Increased stress levels can increase the speed at which the body is worn down and develops health problems. What kind of illness this leads to depends partly on genetics and partly on what kind of things the person is exposed to, such as previous illnesses. The impact of stress on health can therefore vary widely. For some, stress can lead to suicide, whereas for others the result might be high blood pressure or a heart attack. Some may be lucky enough to suffer only a few ill-effects.

The importance of the role that psychosocial factors play in causing illness can also vary considerably. In some cases they play a critical role in causing the disease and

these kinds of conditions are known as psychosomatic. In other cases, the role of psychosocial factors may be less important. However, psychosocial factors always play some role, for example by influencing the way people interpret their life situation, or how they feel their illness. Psychosocial factors influence what people are prepared to do to avoid ill-health (for example stopping smoking) or to become healthy (following dietary advice, or exercising). Psychosocial factors can also worsen the symptoms caused by the illness, or ease how bad the person feels.

The following reflects some research results which illustrate the interaction between psychosocial and physical factors and different kinds of ill-health.

High blood pressure

Stress at work can cause high blood pressure. A series of studies has shown that high blood pressure is particularly common among telephone operators and teachers.

Scientists have also shown that living a stressful life can result in blood pressure increasing with age. For a person who lives in a stable society and who learns how to deal with the strains of everyday life during childhood, blood pressure will not necessarily increase with age, regardless of whether they live in an industrialized or developing country. But if the environment changes drastically and the person is exposed to new demands and strains that they do not know how to handle, blood pressure often increases. However, if the person gets support and encouragement from the group of people they belong to, high blood pressure can often be avoided. If the social group – for example the family or co-workers – breaks up and stops caring, it will result in stress reactions and, in the long run, increase the risk of high blood pressure. This in turn increases the risk of having a stroke or a heart attack.

Heart disease

Negative psychosocial circumstances along with high blood pressure, high blood cholesterol and smoking are the main factors which increase the risk of having a heart attack.

According to the World Health Organization (WHO), an estimated 17.1 million people died from cardiovascular diseases in 2004, representing 29 per cent of all global deaths. Of these deaths, an estimated 7.2 million were due to coronary heart disease and 5.7 million were due to stroke. By 2030, almost 23.6 million people will die from cardiovascular diseases, mainly from heart disease and stroke (WHO, Fact sheet N. 317, 2009a).

The relationship between lifestyle and the risk of coronary artery disease is well-established. Those who aggressively race to climb the social ladder have a higher fat content in the blood, faster blood coagulation, higher rates of ill-health and a higher risk of coronary artery disease compared to people with a calmer, softer and more "relaxed" lifestyle.

Stress can cause heart attacks either in the short term in people who already have partially blocked coronary arteries, or in the long term as a result of the strain put on the

heart by a combination of excessive workloads (either frequently or over too long a period) with excessively low control.

The European Heart Network published a review of the scientific literature regarding stress in working life as a risk factor for heart attacks. They found that a combination of high demands, lack of control and low social support was a significant risk factor. The attributable risk of stress in proportion of myocardial infractions was as significant in men as the attributable risk of smoking (European Heart Network, 2006).

Cardiovascular diseases account for most noncommunicable diseases (NCD) deaths, or 17 million people annually, followed by cancer (7.6 million), respiratory disease (4.2 million), and diabetes (1.3 million). These four groups of diseases account for around 80 per cent of all NCD deaths, and share four common risk factors:

- tobacco use
- physical inactivity
- the harmful use of alcohol and
- poor diets.

Source: WHO Global status report on noncommunicable diseases (NCD); WHO, 2011a.

Cancer

Cancer is an uncontrolled growth and spread of cells that may affect almost any tissue of the body. Cancer caused 7.6 million deaths in 2008, equivalent to 13 per cent of deaths worldwide. More than 30 per cent of these deaths could have been prevented by modifying and avoiding key factors, such as: smoking, alcohol use, low fruit and vegetable intake, overweight and obesity and unprotected sex contributing to the transmission of the human papilloma virus. These key contributory factors have been shown to often increase dependent on the level of stress a person may experience. It is estimated by WHO that if this situation does not improve, there will be 12 million deaths by 2030 (WHO, Fact sheet No. 297, 2011b).

Mental disorders

More than 150 million people worldwide suffer from depression; some 125 million people are affected by alcohol-use disorders; mental, neurological, and substance use disorders account for 14 per cent of the global burden of disease worldwide. (WHO, 2011c).

Mental illnesses are common to all countries and cause immense suffering. People with these disorders are often subjected to social isolation and poor quality of life which only adds to stress levels. Mental health problems lead to staggering economic and social costs.

Post-traumatic stress disorder (PTSD) is a particularly extreme form of stress which occurs after severe external strains, such as an accident, violence, murder, rape, torture, war, or natural disasters. The person is tormented by painful, traumatic memories and tries to avoid being reminded of them. If reminded, they may react with palpitations, trembling, concentration difficulties, and poor sleep. Some jobs may expose workers to a risk of PTSD, and they should receive appropriate treatment for it.

Burnout

Burnout is a condition of exhaustion combined with feelings of hopelessness and cynicism. Burnout often occurs when over a long period of time excessive demands are placed on a person who does not have enough resources to meet those demands. It can feel like trying to empty the ocean with a teaspoon. This feeling is common among staff in schools and the health care sector, those looking after the elderly, and those working in the social services. It is true for all forms of work from which more "efficiency" is demanded, but for which fewer and fewer resources are provided.

A "burned-out" worker becomes exhausted, indifferent and inefficient. They have given everything, have put others' needs before their own and finally reach a point where they have no more to give. They will become unable to work at all, if the burnout is not treated.

Suicidal behaviour

According to the WHO, in the last 45 years suicide rates have increased by 60 per cent worldwide and suicide is now among the three leading causes of death among those aged 15–44. These figures do not include suicide attempts, which are up to 20 times more frequent than successful attempts at suicide (WHO, SUPRE, 2009b).

Mental disorders (particularly depression and substance abuse) are a major risk factor associated with suicide in Europe and Northern America (WHO, SUPRE, 2009b). However, suicide results from many complex socio-cultural factors. Problems at work or in the family, such as job losses, lack of social support, psychological violence or the loss of a close relative through divorce or death are often part of the cause.

Becoming unemployed or suffering from workplace harassment and bullying, or particular situations like retirement, excessive workload or financial problems can also lead to suicide.

4. Managing stress at work

Just as there are many different causes of stress, there are various ways of managing stress, as well as individual responses, there are important workplace actions that can be taken collectively to manage stress.

At an individual level

If you suffer from stress … think about the following ten points. Some may be true for you.

1. Get to know your own stress reactions. Use them as **warning signals**.
   a. What is your body and your mind trying to tell you?
   b. Should you prioritize differently?
   c. Slow down? Take a few days off next week?
   d. Call in sick if you are feeling unwell?
   e. Change jobs?
   f. See a doctor?
2. Try to find out what it is in your situation which **causes** the stress.
   - The job?
   - Family?
   - Finances?
   - Your own demands?
   - In which areas? Something which you can and will change?
3. A lot of what stresses you may be **trivial**, something you will soon have forgotten, nothing to worry about. Do not overreact to little things which do not require so much energy and attention. Some things are just tiresome, not disasters.
4. Do not trouble yourself with worries about what might happen in the future ("what if…"). Someone once said: "I have had many worries in my life, most of which never happened."
5. If you come up against something which you cannot change, then do not hit your head against a brick wall. Try to *accept* the inevitable. Let the wave come. And hold on tight. Afterwards you may even find that it was not as bad as you thought.
6. Seek *to compensate* in other ways. Do fun things with your family if you are having a hard time at work. Or try to enjoy work if family life is hard.
7. Find social *support*. "Carry each other's burdens".
8. Get a hold of reality. *Be realistic* when you set yourself goals. Set up partial goals. And do not fight phantoms or ghosts.
9. Try to *get control* of your own life.
   - Develop and use your own self control, your own power, your power over your daily life.
   - Change what can and should be changed.
   - Accept what cannot be changed.
   - Compensate for the unpleasantness.
   - And learn to appreciate all that is well.
10. If the above points do not help – do not hesitate to *see a doctor*.

At management-collective level

Within the framework of an integrated occupational safety and health policy addressing health promotion issues, a number of strategies can be useful to avoid creating stressful working conditions and to prevent stress at work. Many of these strategies are related to workload, work design and content.

Control

As was shown in Karasek's Demand-Control model of stress, providing workers with more control can help reduce stress even in the face of high demands. This can be achieved by:

- ensuring adequate staffing levels;
- allowing workers a say in how their work is to be carried out.

Timing strategies can be crucial to avoid stress:

- regularly assess time requirements and assign reasonable deadlines;
- ensure that working hours are predictable and reasonable.

Social support

The third variable in the Demand-Control model is support from co-workers. There are a number of management strategies that can create an atmosphere with good social support:

- allow for social contact among workers;
- maintain a workplace that is free of physical and psychological violence;
- ensure that there are supportive relationships between supervisors and workers;
- provide an infrastructure where supervisory staff take responsibility for other workers and there is an appropriate level of contact;
- encourage workers to discuss any conflicting demands between work and home;
- reinforce motivation by emphasizing the positive and useful aspects of the work.

Matching the job and the worker

The right person in the right job has the resources they need to complete the tasks required without becoming stressed. This requires skills on the part of managers in assessing both the job and the worker, in order to:

- match jobs to physical and psychological skills and abilities of the workers;
- assign tasks according to experience and competence;
- ensure proper utilization of skills. For example, have a highly skilled worker in a job that makes use of the skills they have or they will get bored; by the same measure a

worker with basic skills will be very stressed if asked to take on a task for which they are not competent or adequately trained.

Training and education

To ensure that worker skills and jobs can be matched as the company develops and situations change, adequate training needs to be made available to workers, in order not to create stressful situations.

Transparency and fairness

In an atmosphere where workers feel they are treated fairly and they know what to expect there will be less stress. Managers can create this type of atmosphere by:

- ensuring tasks are clearly defined;
- assigning clear roles, avoiding role conflict and ambiguity;
- providing job security to the extent possible;
- providing adequate pay for work performed;
- ensuring transparency and fairness in procedures for dealing with complaints.

Physical working environment

It should not be forgotten that the actual physical setup of the working space can contribute to reducing stress levels. Providing appropriate lighting, equipment, air quality, noise levels avoiding exposure to hazardous agents and taking into account ergonomic considerations for the job limits workers' stress.

5. Good practices

Stress assessment

Given that the goal of any stress control programme is to manage specific causes of stress and their effects, related to both the work situation and the personal characteristics of the individual, an effective programme requires proper identification of the stressors causing high-stress situations and an assessment of the work performance and personal problems resulting from stress.

Workers should be involved in identifying those stressors which they feel cause unnecessary stress in their jobs, and in rating them in order to establish priorities for intervention. The assessment should be done in a systematic way and workers should be asked to express their concern about any situation that may be causing stress at work. In this respect, the assessment of the relevant hazards and risks can prove particularly helpful in designing preventive and corrective measures.

Preventing stress

Once the existence of stress has been recognized and the stressors identified, action to deal with stress should be taken. Assuming that stress is a misfit between the demands of the environment and the individual's abilities, the imbalance may be corrected, according to the situation, either by adjusting external demands to fit the individual, or by strengthening the individual's ability to cope, or both. At this point, it should be kept in mind that as stress is a multifaceted phenomenon and that each case is different, no simple, universal solution for the management of stress is available.

The ideal response to stress is to prevent its occurrence. This may be achieved by tackling the core of the problem: the cause. However, there is no single cause of stress and the elimination of all stressors is not always feasible. Therefore, action should be aimed at eliminating as many workplace causes as possible, so that the action taken reduces stress and prevents future stress. As this cannot always be achieved in the short term, it is generally agreed that improving the individual's ability to cope with stress can be a valuable complementary strategy as part of the wider, organizational process of combating stress.

Most of the causes of workplace stress are related to how work content is designed and how work is organized. Stress researchers have identified nine categories under which stress-related hazards can be grouped: job content, workload and work pace, working hours, participation and control, career development, status and pay, role in the organization, interpersonal relationships, organizational culture and home-work interface. The table on the next page describes some of the psychosocial hazards related to these categories.

STRESS-RELATED HAZARDS

Job Content

- Monotonous, under-stimulating, meaningless tasks
- Lack of variety
- Unpleasant tasks
- Aversive tasks

Workload and Work Pace

- Having too much or too little to do
- Working under time pressures

Working Hours

- Strict and inflexible working schedules
- Long and unsocial hours
- Unpredictable working hours
- Badly designed shift systems

Participation and Control

- Lack of participation in decision making
- Lack of control (for example, over work methods, work pace, working hours and the work environment)

Career Development, Status and Pay

- Job insecurity
- Lack of promotion prospects
- Under-promotion or over-promotion
- Work of 'low social value'
- Piece rate payments schemes
- Unclear or unfair performance evaluation systems
- Being over-skilled or under-skilled for the job

Role in the Organization

- Unclear role
- Conflicting roles within the same job
- Responsibility for people
- Continuously dealing with other people and their problems

Interpersonal Relationships

- Inadequate, inconsiderate or unsupportive supervision
- Poor relationships with co-workers
- Bullying, harassment and violence
- Isolated or solitary work
- No agreed procedures for dealing with problems or complaints

Organizational Culture

- Poor communication
- Poor leadership
- Lack of clarity about organizational objectives and structure

Home-Work Interface

- Conflicting demands of work and home
- Lack of support for domestic problems at work
- Lack of support for work problems at home

Source: WHO, Protecting workers' health series No. 3: Work organization and stress, 2004.

Risk assessment and management

Risk management is a problem solving approach to health and safety hazards, is an integral part of an enterprise's OSH management system, and contributes to the cycle of continuous improvement of work and working conditions.

Workplace stress-related hazards can be assessed, and their effects controlled, through risk-assessment and management measures, in the same way as other occupational hazards. As the causes of stress are hazards related to the design and management of work and working conditions, it will be necessary to identify work practices or work organization measures that cause significant imbalances of demand and resources - in terms of mismatch between demands and pressures, on the one side - and workers' knowledge and abilities on the other. This would allow setting priorities for change and managing the risk reduction.

Risk management steps:

1. analysis of the situation and assessment of the risk;
2. design of an action plan to reduce the risk of workplace stress;
3. implementation of the action plan;
4. evaluation of the action plan; and
5. learning and further action based on the results of that evaluation.

There is a wide range of interventions that can be considered. The choice of the most effective combination should match the target group and the specific features of the particular work situation. Following the risk management steps, an example of interventions to reduce the risk of workplace stress would be:

1. Primary prevention, reducing stress through:

- ergonomic measures,
- work organization and environment design,
- organizational and management development.

2. Secondary prevention, reducing stress through:

- workers' and supervisors' education and training,
- social support.

3. Tertiary prevention, reducing the impact of stress by:

- developing more sensitive and responsive management cultures,
- incorporating stress risk management into OSH policies and practices,
- improving access to occupational health services.

To tackle the causes of stress, well-designed work should include:

Well-designed work	
Clear organizational structure and practices	Workers should be provided with clear information about the structure, purpose and practices of the organization.
Appropriate selection, training and staff development	Each employee's knowledge, skills, and abilities should be matched as much as possible to the needs of each job. Candidates for each job should be assessed against that job's requirements. Where necessary, suitable training should be provided. Effective supervision and guidance is important and can help protect staff from stress.
Job descriptions	A job description will depend on an understanding of the policy, objectives and strategy of the organization; on the purpose and organization of work, and on the way performance will be measured.

Well-designed work	
Job descriptions must be clear	It is important that an employee's manager and other key staff are aware of the relevant details of the job and make sure that the demands are appropriate. The better workers understand their job, the more they will be able to direct the appropriate efforts towards doing it well.
Communication	Managers should talk to their staff, listen to them and make it clear that they have been heard. Communication of work expectations should be comprehensible, consistent with the job description and complete. Commitments made to staff should be clear and should be kept.
Social environment	A reasonable level of socializing and teamwork is often productive as it can help increase commitment to work and to the work group.

Source: WHO protecting workers' health series No.3: Work organization and stress, 2004.

The following is a list of possible types of intervention, ranging from interventions targeted at the working environment to those targeted at the individual:

- intervention of the external socio-economic environment;
- legislation, international and national directives;
- integrating stress prevention into company policy on occupational safety and health through health promotion measures;
- social support;
- intervention on technology and work organisation;
- improving job planning and reliability of the work systems;
- reduction of working hours and arrangement of working teams and rest periods in relation to the workload;
- arrangement of shift schedules according to psychological, physiological and social criteria;
- participation in decision-making and effective two-way communication;
- intervention in working place and task structure;
- improving the working environment;
- noise reduction;
- improvement in micro-climatic conditions and indoor air quality;
- arranging workplaces according to ergonomic criteria;

- better workstation design;
- improving conditions of those working with visual display units;
- correct sitting postures;
- intervention to improve individual responses and behaviour;
- counselling or advice on individual ways of coping with stress;
- better recruitment and selection and improved training;
- counselling and other supportive measures at the enterprise level;
- specific intervention for health protection and promotion;
- appropriate medical surveillance.

Since practically all of the above-mentioned measures can, in principle, be beneficial for all occupations affected by stress, particular attention needs to be paid to the specific measures most relevant to the workplace concerned.

Preventive approaches to stress are thus becoming increasingly relevant in terms of research and policy orientation, and are opening new paths for intervention in the fight against occupational stress.

6. Interrelationships

Psychosocial problems are interrelated: suffering from one of them can provoke or contribute to another. Stress is particularly related to violence and to addiction, but also to lifestyle issues like nutrition, exercise and sleep.

Violence and stress

There is clearly a close relationship between violence and stress. Workplace violence in SOLVE is seen as including both psychological and physical violence. In stressful situations, many people begin to be bad-tempered towards those around them. Of the many sources of workplace stress, research by Barling has identified three sources which contribute significantly to the likelihood of violence (particularly physical violence) occurring at the workplace:

- perceived injustice (i.e. being passed over for promotion or unfair punishment),
- electronic monitoring, and
- job insecurity.

Equally, where workplace violence happens, there is likely to be more stress. Interestingly, according to research by Bennett and Lehman this can affect the witnesses of violence as much as the victims. This is particularly true in jobs involving a great deal of team work and customer orientation.

Addictions and stress

There is considerable evidence that stress fuels addictive habits, but also that addictions can result in increased stress. For example, stressed workers working long hours have been shown to smoke more and drink more alcohol than those working shorter hours. Research shows that many of those who suffer from addictions also suffer from forms of stress such as anxiety and depression. Often the addiction results from an attempt to cope with difficulties in life and work, but mostly it only makes things worse. Smokers for example, often cite a “smoke to cope” reason for their habit, but there is evidence to suggest that smokers' stress levels between one cigarette and another are higher than those of non-smokers. Smokers therefore have to smoke in order to achieve a “normal” level of stress as experienced by non-smokers.

Lifestyle and stress

Many lifestyle choices today, such as what people eat and how they organize their sleeping patterns, are affected by the stress they may experience at work or elsewhere. Many people can be so stressed that they are unable to fall asleep. When this situation carries on repeatedly, it can lead to severe health consequences because the body is unable to recover and recuperate.

Eating habits are also affected by stress. Time pressure can mean eating at irregular intervals rather than at set meal times. The food which is available in this way tends to be highly processed, containing much fat and sugar and little fibre. Research has also found that some people eat healthier food when they feel good, but prefer junk food when they don't.

Exercise is a well-known positive response to stress, which not only improves health but also mood and ability to cope with difficult situations.

7. Policy integration

Within the framework of an integrated company policy on occupational safety and health which addresses psychosocial risks, there are a number of points which are particularly relevant to managing and preventing stress at work.

Work organization

How work is organized is key to managing stress in any organization. A given workload can appear impossible to cope with if the working situation provides the worker with little control and no social support; whereas the same workload may feel like an approachable challenge if colleagues are supportive and the worker has some control over how the work is done. Company policy on work organization needs to enable workers to feel they are in the second situation rather than the first.

Worker involvement and consultation

One way to create some control and possibly social support is to involve workers in work design and policy-making at all stages. In this manner, solutions can be found that meet the needs of the people doing the job, as well as the needs of the employer. A good policy preventing stress presupposes good social dialogue.

Information

Providing clear information and transparency within the organization is one way of reducing stress. By keeping no one in the dark about developments in the company appropriate responses can be found to real situations, rather than creating worries about problems that may not surface.

Education and training

In order to create a match between demand and control, it is essential for the person doing the job to have received appropriate training. Good training provides them with the resources and competencies to meet the demands of the job. It should be company policy that the right workers are trained to do the right jobs.

Risk assessment and management

By viewing stress as a result of hazards in the workplace (as in the model by Palmer, Cooper and Thomas earlier in this chapter), appropriate risk assessment and management strategies for psychosocial risks to prevent stress can be applied.

Health promotion

By promoting healthy lifestyles enterprises can contribute to reducing stress; workers who exercise and eat well and who are not subject to addictions have fewer sources of stress in their lives. Equally, if they are less stressed by work, they are less likely to turn to unhealthy behaviors such as alcohol abuse and smoking.

Bibliography

- Barling, J. 1996. “The prediction, psychological experience and consequences of workplace violence”, in G. VandenBos and E. Q. Bulatao (eds.): *Violence on the job: Identifying risks and developing solutions* (Washington D.C., American Psychological Association).

- Bennett, J.B.; Lehman, W.E. 1999. “The relationship between problem co-workers and quality work practices: A case study of exposure to sexual harassment, substance abuse, violence and job stress” in *Work & Stress*, Vol. 13, No. 4 (London, Routledge), pp. 299–311.

- Beskow, J.; Wasserman, D. 2002. “Venlång: The Swedish National Programme for Suicide Prevention”, in D. De Leo; A. Schmidtke and R.F.W. Diekstra (eds.): *Suicide prevention. A holistic approach*, (Kluwer, Dordrecht).

- Brun, J.P.; Institut de recherche Robert-Sauvé en santé et en sécurité du travail (IRSST). 2005. “Scope of the problem. How workplace stress is shown. Booklet 1”, *Mental health at work. From defining to solving the problem* (Quebec, Chair in Occupational Health and Safety Management at Université Laval).

- Canetti, L.; Bachar, E.; Berry, E. M. 2002. “Food and emotion” in *Behavioural Processes,* Vol. 60, No. 2, pp. 157–164.

- Cox, T.; Griffiths, A. 1994. *Manual on Occupational Stress in Nursing* (Geneva, ILO).

- Cox, T. et al. 2000. *Organisational Interventions for Work Stress* (Sudbury, UK, HSE Books).

- Danaei, G. et al. 2005. “Causes of cancer in the world: comparative risk assessment of nine behavioral and environmental risk factors” in *The Lancet*, Vol. 366, No. 9499, pp. 1784–1793.

- European Agency for Safety and Health at Work. 2000. *Research on work-related stress* (Luxemburg, Office for Official Publications of the European Communities).

- —. 2009. *OSH in Figures: Stress at work – facts and figures* (Luxemburg, Office for Official Publications of the European Communities).

- —. 2010. “European survey of enterprises on new and emerging risks” in *Managing safety and health at* work (Luxemburg, Office for Official Publications of the European Communities).

- European Heart Network. 2006. *Stress and Cardiovascular disease* (Brussels).

- Greenberg, P.E.; Sisitsky, T.; Davidson, J.R.T. 1999. "The economic burden of anxiety disorders in the 1990s" in *Journal of Clinical Psychiatry*, Vol. 60, No.7, pp. 427–435.

- Griffiths, A.; Cox, T. 1998. *Work Stress: Advice on its Prevention and Management* (Borehamwood, UK, Loss Prevention Council).

- Health and Safety Executive. 2001. *Tackling workrelated stress: a managers' guide to improving and maintaining employee health and wellbeing* (Sudbury).

- Houtman, I.L.D; Kompier, M.A.J. 1995. "Risk factors and occupational risk groups for work stress in the Netherlands" in S. L. Sauter and L. R. Murphy (eds.): *Organizational risk factors for job stress* (Washington, D.C., American Psychological Association).

- Karasek, R.A.; Theorell, T. 1990. *Healthy Work: Stress, Productivity, and the Reconstruction of Working Life* (New York, Basic Books).

- Levi, L. 2001. *Stress and health* (Stockholm, Skandia).

- Maslow, A.H. 1943. "A Theory of Human Motivation" in *Psychological Review*, Vol. 50, No. 4 (American Psychological Association), pp. 370–96.

- National Institute for Occupational Safety and Health. 1999. *Stress... At Work* (Cincinnati, Ohio, Department of Human and Health Services NIOSH Publication No. 99–101).

- Palmer, S.; Cooper, C.; Thomas, K. 2001. "Model of organizational stress for use within an occupational health education/promotion or wellbeing programme – A short communication" in *Health Education Journal*, Vol. 60, No. 4, pp. 378–80.

- Palmer S, Cooper C, Thomas K. 2003. *Creating a balance: managing stress*. (London, British Library).

- Palmer, S.; Cooper, C.; Thomas, K. 2004. "A model of work stress" in *Counselling at work*, Vol. 4 (Lutterworth, UK, British Association for Counselling & Psychoterapy), pp. 2–5.

- Parrott, A. 1999. "Does cigarette smoking *cause* stress?" in *American Psychologist*, Vol. 54 (Washington, D.C., American Psychological Association), pp. 817–820.

- Richman, J.A. et al. 1999. "Sexual harassment and generalized workplace abuse among university employees: prevalence and mental health correlates" in *American*

Journal of Public Health, Vol. 89 (Washington, D.C., American Public Health Association), pp. 358–363.

Selye, H. 1936. "A Syndrome Produced by Diverse Nocuous Agents" in *Nature*, Vol. 138 (Nature Publishing Group), pp. 32–34.

Shields, M. 2000. "Long working hours and health" in *Perspectives on Labour and Income*, Vol. 12 (Ottawa, Ontario, Statistics Canada), pp. 49–56.

Stokols, D. 1996. "Translating social ecological theory into guidelines for community health promotion" in *American Journal of Health Promotion*, Vol. 5, No. 10, pp. 282–298.

Stokols, D.; Pelletier, K. R.; Fielding, J. E. 1996. "The Ecology of Work and Health: Research and Policy Directions for the promotion for Employee Health" in *Health Education Quarterly*, Vol. 23, No. 2 (SAGE Publications), pp. 137–158.

Weissman, M.M.; Myers, J.K. 1980. "Clinical depression in alcoholism" in *American Journal of Psychiatry*, Vol. 137, No. 3 (Arlington, Virginia, American Psychiatric Publishing), pp. 372–373.

Wolf, S.; Bruhn, J.G. 1979. *The Roseto story. An anatomy of health* (Norman, University of Oklahoma Press).

World Health Organization. 2004. *Protecting Workers' Health Series No. 3: Work organization and stress: systematic problem approaches for employers, managers and trade union representatives* (Geneva).
Available at:
http://www.who.int/occupational_health/publications/stress/en/index.html

—. 2009a. *Fact sheet N. 317, Cardiovascular diseases (CVDs)*
Available at: http://www.who.int/mediacentre/factsheets/fs317/en/print.html

—. 2009b. *Suicide prevention (SUPRE)*
Available at:
http://www.who.int/mental_health/prevention/suicide/suicideprevent/en/

—. 2011a. WHO Global status report on noncommunicable diseases (NCD).

—. 2011b. *Fact sheet N. 297 Cancer*
Available at: http://www.who.int/mediacentre/factsheets/fs297/en/index.html

—. 2011c. WHO Mental Health GAP action programme newsletter, January 2011, Geneva.

Websites

- European Agency for Safety and Health at Work, Stress Definition and Symptoms:
  http://osha.europa.eu/en/topics/stress/definitions_and_causes

- The European Heart Network:
  http://www.ehnheart.org

- World Health Organization, Cancer:
  http://www.who.int/cancer/en/

- World Health Organization, Cancer Fact sheet:
  http://www.who.int/mediacentre/factsheets/fs297/en/index.html

- World Health Organization, Cardiovascular disease prevention and Control:
  http://www.who.int/dietphysicalactivity/publications/facts/cvd/en/

- World Health Organization, Mental Health:
  http://www.who.int/mental_health/en/

- WHO Prevention of Suicidal Behaviours: A Task for All:
  http://www.who.int/mental_health/prevention/suicide/background/en/index.html

- World Health Organization, Suicide prevention (SUPRE):
  http://www.who.int/mental_health/prevention/suicide/suicideprevent/en/

Alcohol and drugs at work

1. Introduction

Problems related to alcohol and drugs may arise as a consequence of personal, family or social factors, from certain work situations, or from a combination of these elements. Such problems not only have an adverse effect on the health and well-being of workers, but may also cause many work-related problems including deterioration in job performance. While the elimination of substance abuse is a highly desirable goal, experience has shown the difficulties in achieving it at the workplace level.

There is a long tradition of programmes to address the problem of substance abuse by workers. These have traditionally focused on the identification and rehabilitation of workers with severe alcohol and, more recently, drug abuse problems with an individual approach. However, as understanding of the sheer scope, nature and costs of the problem has deepened, more progressive enterprises, organizations and countries have placed a much greater emphasis on the development of broad consensual partnerships at the workplace and beyond designed to achieve a real improvement in the situation, taking into consideration that there are multiple causes of alcohol and drug related problems, and that there are consequently multiple approaches to prevention, assistance, treatment and rehabilitation.

According to the Management of Substance Dependence (MSD) team of the World Health Organization (WHO) and the United Nations Office on Drugs and Crime (UNODC), over two billion people worldwide consume alcoholic beverages, 200 million people have recently used drugs, and it is a problem that affects developed and developing countries alike. All countries are affected by the devastating consequences of alcohol and drug abuse. While different drugs may be used in different countries, the Figure 4.1 on the next page shows how serious these problems are and increasing everywhere. Central to the issue is the rapid pace of globalization and societal change; substance abuse patterns and problems are worsening and having greater impact on work and on public health, often in the very places where there are the fewest resources to combat them.

A number of factors are contributing to the increases in problems related to alcohol and drugs worldwide:

- rapidly changing social and economic circumstances;
- global availability of substances which are abused;
- the rising demand for drugs and alcohol.

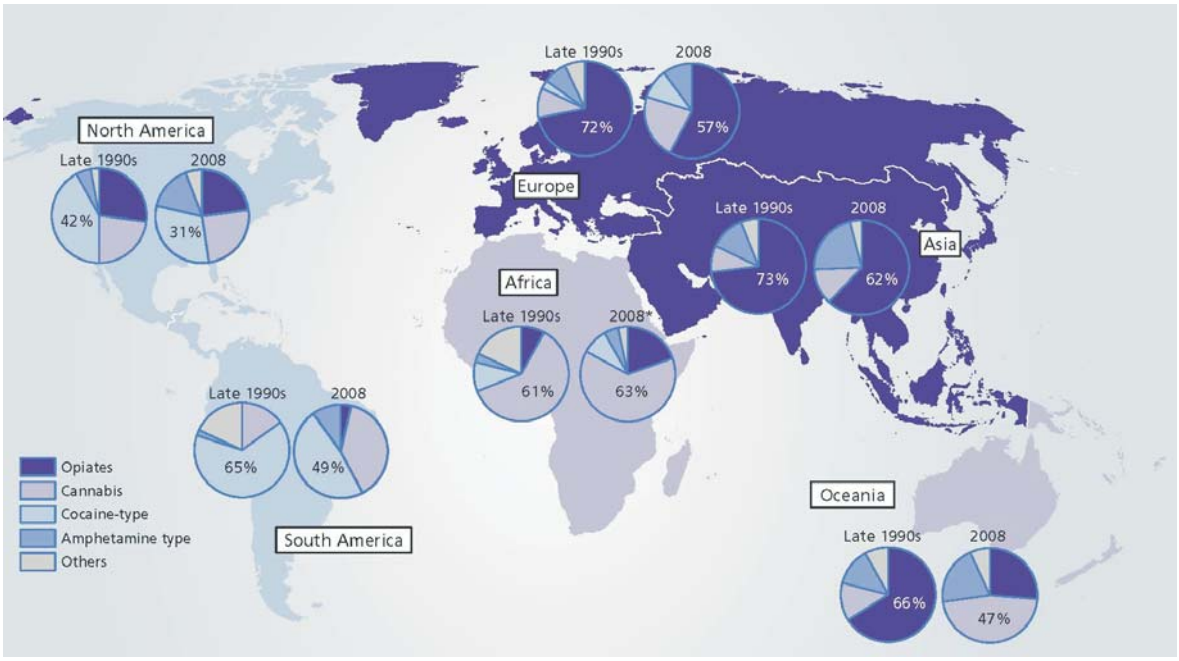


Figure 4.1: Main problem drugs as reflected in treatment demand, by region, from the late 1990s to 2008 (or latest year available)

Source: UNODC, 2010.

Alcohol abuse contributes to a wide range of social and health problems including loss of work productivity, family disruption, dependence, depression, injuries as a result of accidents or violence, liver cirrhosis and cancer. Health and social problems that result from drinking often affect others besides the drinker; domestic violence, financial and emotional stress for co-workers, friends and family are common consequences. Heavy alcohol use takes a particular toll on young people, and has been linked to high rates of youthful criminal behaviour, injury and interrupted education.

The health and social impact of drug abuse can be far reaching. Drug abuse can contribute to cardiovascular disease, stroke, cancer, HIV and AIDS, hepatitis and lung disease. Some of these effects occur when drugs are used at high doses or after long-term use. However, some may occur after just one single use.

Addiction affects people during the most productive years of their life. Figures from the WHO show that the overwhelming majority of deaths in the world from alcohol disorders happen between the ages of 30 and 69, with a significant peak at age 45-59. Most people would hope to be at the height of their working life during this period.

Furthermore, 320,000 young people between the age of 15 and 29 died from alcohol-related causes, resulting in 9 per cent of all deaths in that age group (WHO, 2011)[1].

[1] http://www.who.int/mediacentre/factsheets/fs349/en/index.html

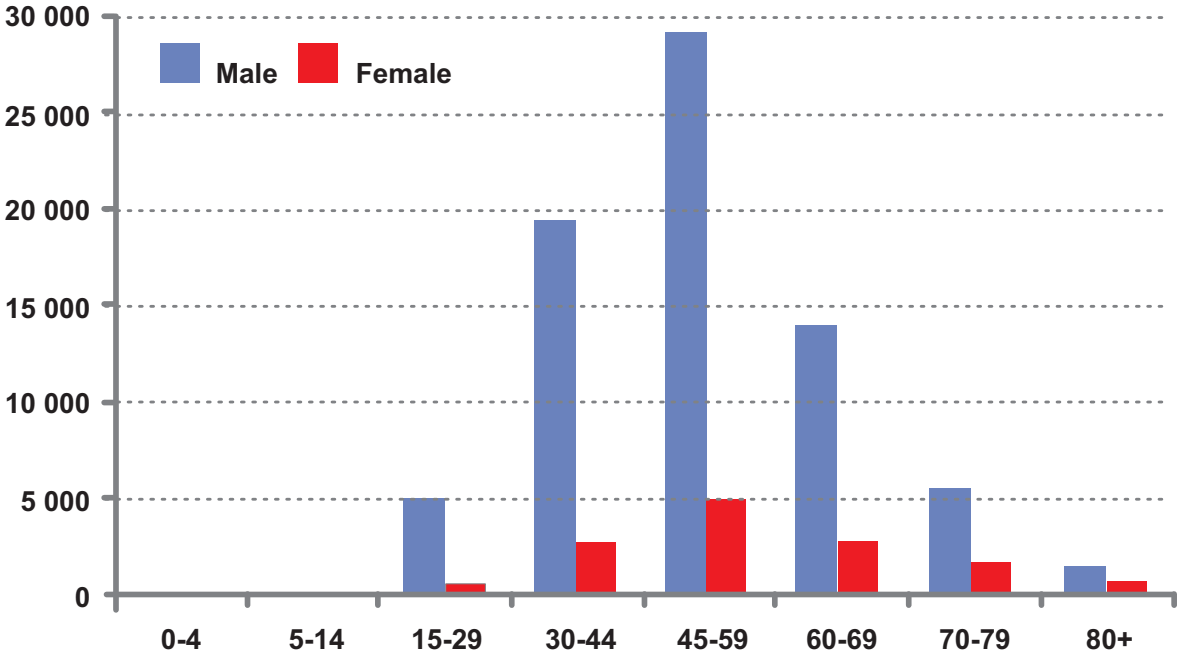


Figure 4.2: Global deaths in 2001 from alcohol use disorders, by age group and sex

Source: WHO, 2004.

This chapter deals with alcohol and other drugs which have the capacity to produce addiction. They are psychoactive substances, which alter brain functions. Tobacco also falls into the same category, but because of its enormous health impact, tobacco is addressed separately in SOLVE.

It is important to remember that many of the commonly abused psychoactive substances are legal or licit substances, including those that are intended as medicines. If medicines are used without prescription and with the main intent of experiencing their psychoactive effects or because of addiction, this counts as abuse.

Alcohol and other drug problems can affect every one of us regardless of age, sex, marital status, income or lifestyle. Both their use and abuse can result in multiple consequences for health, safety, and productivity; they can as well lead to other psychosocial risks. Fortunately, there are means to approach these issues and resolve them both at work and beyond.

Alcohol and many drugs cause physical or psychological dependence (addiction). Workers who have problems with alcohol and drugs use may be suffering from a health disorder and should be treated as workers with other health problems. The employer should offer counselling, treatment and rehabilitation as alternatives before considering the imposition of disciplinary measures.

2. Understanding Alcohol and Drugs

Alcohol and other drug abuse is interchangeably referred to as substance abuse. Some of the most common substances abused are listed in the table below, although they may have different street names.

Common Substances of Abuse

Central Nervous System Depressants

- Alcohol (includes spirits, wine, beer, home brews)
- Minor tranquilizers (benzodiazepines and barbiturates)
- Gamma-hydroxybutyrate

Central Nervous System Stimulants

- Amphetamines
- Cocaine
- Nicotine
- Caffeine

Opioids

- Morphine and heroin
- Opium
- Codeine
- Prescription pain killers like dextropropoxyphene
- Methadone

Cannabinoids

- Hashish, marijuana
- Cannabis oil

Hallucinogens

- Lysergic acid diethylamide (LSD),
- Mescaline, psilocybin (in magic mushrooms),
- Ecstasy (MDMA)
- Phencyclidine (PCP)

Inhalants

- Aerosol sprays
- Glue
- Petrol or gasoline
- Paint thinners
- Substances containing toluene

Over the counter medications, other prescription drugs and others

- Antihistamines
- Constipation reducing agents
- Anxiety reducing agents
- Drugs used in the treatment of mental disorders
- Others (diuretics, anti-Parkinson's medication),
- Anabolic steroids (testosterone, danazol, nandrolone, fluoxymesterone)

Alcohol, other drugs, and tobacco are called psychoactive substances because they all affect the brain. They alter mental activity, sensation and behaviour; regular use can lead to dependence (addiction) and expose the user to risks, health hazards, and can have adverse social consequences.

Taking psychoactive substances provides immediate sensations of pleasure or relief. For example, people may:

- drink alcohol just because they like the flavour, or to relax, or feel better, or to get through a painful experience;
- smoke cannabis to imitate their peers, keep company with their co-workers, or simply because they cannot quit;
- take ecstasy to experience intense sensations;
- abuse substances for many other reasons: to reduce feelings of uneasiness, to forget something painful, or to escape reality when it feels intolerable.

The effects, risks and dangers of psychoactive substances vary with each substance and the way it is used. Different substance abuse patterns can occur; for example, a young person occasionally taking ecstasy for recreational use will use drugs differently to a 50-year-old habitual drinker and the pattern will be different again for a long-term heroin user (dependence or addiction). The consequences of alcohol and drug use depend upon what substance is used, how much is consumed, how often, in what context, as well as on the vulnerabilities of the particular user.

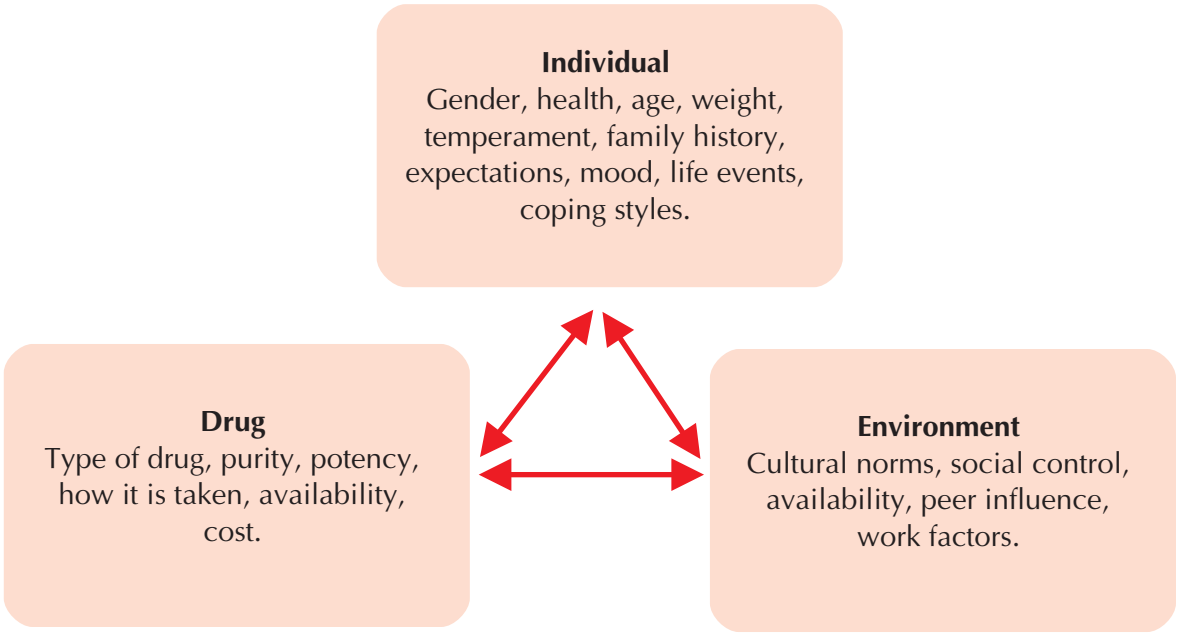
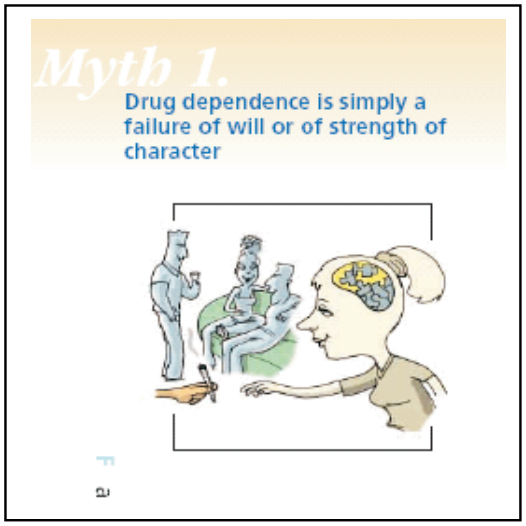


Figure 4.3: Factors that influence the consumption and effects of alcohol and drugs

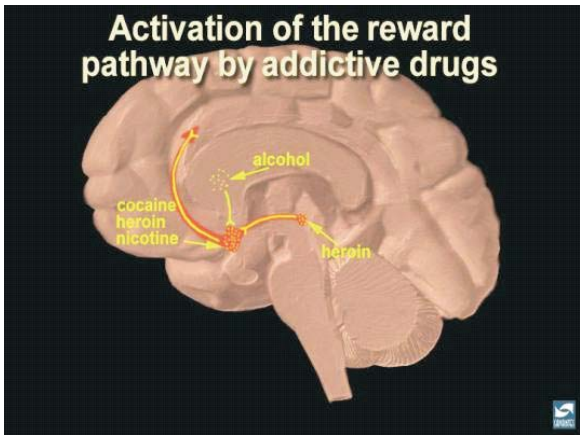
Effects on the Brain

Alcohol and drugs affect the brain causing intoxication. It is also their effect on the brain which may bring about and then maintain excessive drinking or drug use and which can lead to relapse when people are trying to give up. Although initial drug use might be voluntary, drug abuse changes the way the brain works and therefore the way people behave. Once addiction develops, these brain changes interfere with a person's ability to make voluntary decisions, leading to compulsive drug craving, drug seeking and drug use.



Source: National Institute on Drug Abuse (NIDA).

The brain has a natural reward circuit that regulates pleasurable sensations and basic drives such as appetite and sexual interest. Drugs affect precisely this circuit by increasing a brain chemical called dopamine, which creates pleasurable sensations through the reward circuit.



Source: WHO - MSD Team, 2001.

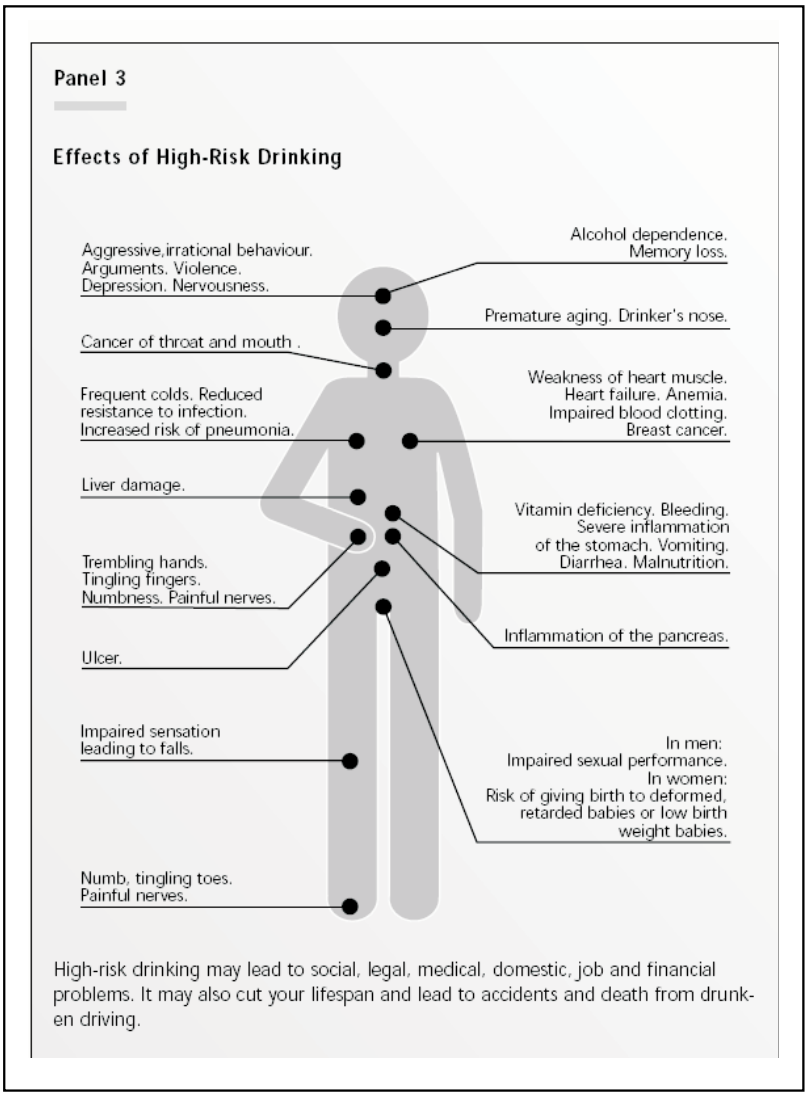
Health Effects of High Risk Drinking

Drinking alcohol in excess can affect the health of many areas of the body. The effects on the liver are well-known, but drinking alcohol in large quantities can also lead to many other diseases, such as ulcers, heart disease and some forms of cancer.

Addiction is a mental health problem, but even before addiction sets in, alcohol affects the brain and causes aggression, violence, depression and nervousness.

Problems related to alcohol and drugs occur on a spectrum from use to abuse to dependence. In order to recognize whether a worker has a problem, it is important to find out where on that spectrum they are. There are a number of signs; some are listed in the table on the next page.

Abuse	Dependence
• Using in situations where it can be dangerous: e.g. driving or operating machines when under the influence. • Getting into legal problems. • Experiencing health, personal or social problems because of use. • Being unable to meet obligations either at school, home or work. • Endangering someone else's health and safety through the person's alcohol and drug use. • Using despite advice not to do so (because of health problems or work-related problems).	• Need to take the drug on a regular basis to experience its effects or to overcome the distress when not using. • Feeling of loss of control while taking the substance. • An experience of relief after taking the substance. • Withdrawal symptoms in the form of distressing physical problems (e.g. loss of sleep, jitteriness) and psychological symptoms (e.g. craving) when not taking the substance.



Source: Babor; Higgins-Biddle, 2001.

Straight Facts[2]

Straight facts... about alcohol

Alcohol abuse is a pattern of problem drinking that has health consequences or social problems, or both. However, alcohol dependence, or alcoholism, refers to a disease that is characterized by abnormal alcohol-seeking behaviour that leads to impaired control over drinking.

Short-term effects of alcohol use include:

- distorted vision, hearing, and coordination;
- altered perceptions and emotions;
- impaired judgment;
- bad breath;
- hangovers.

Long-term effects of heavy alcohol use include:

- loss of appetite;
- vitamin deficiencies;
- stomach ailments;
- skin problems;
- sexual impotence;
- liver damage;
- heart and central nervous system damage;
- memory loss.

Some quick clues that may indicate someone has a drinking problem:

- inability to control drinking;
- using alcohol to escape problems;
- a change in personality;
- a high tolerance level: drinking just about everything under the table;
- blackouts: sometimes not remembering what happened while drinking;
- problems at work or in school as a result of drinking;
- concern shown by family and friends about drinking.

2 Adapted from: Straight Facts About Drugs and Alcohol, © 1996-2010 At Health, Inc. Available at: http://www.athealth.com/Consumer/disorders/Substanceabuse.html

Straight facts... about cannabis

Cannabis is the most widely used illicit drug in most countries and tends to be the first illegal drug teens use. The physical effects of cannabis use, particularly on developing adolescents, can be acute.

Short-term effects of using cannabis:

- sleepiness;
- difficulty keeping track of time, impaired or reduced short-term memory;
- reduced ability to perform tasks requiring concentration and coordination, such as driving a car;
- increased heart rate;
- potential cardiac dangers for those with a pre-existing heart disease;
- bloodshot eyes;
- dry mouth and throat;
- decreased social inhibitions;
- paranoia;
- hallucinations.

Long-term effects of using cannabis:

- enhanced cancer risk;
- decrease in testosterone levels for men; also lower sperm counts and difficulty having children;
- increase in testosterone levels for women; also increased risk of infertility;
- diminished or extinguished sexual pleasure;
- psychological dependence requiring more of the drug to get the same effect;
- marijuana affects the messages in your brain and alters your perceptions and emotions, vision, hearing, and coordination.

Straight facts... about amphetamine derivatives (methamphetamine)

Methamphetamine is a stimulant drug chemically related to amphetamine but with stronger effects on the central nervous system. Methamphetamine is used in pill or in powdered form by snorting or injecting. Street names for the drug include “speed”, “meth” and “crank”. Crystallized methamphetamine, known as “ice”, “crystal”, or “glass”, is a smokable and more powerful form of the drug.

The effects of methamphetamine use include:

- increased heart rate and blood pressure;
- increased wakefulness, insomnia;
- increased physical activity;
- decreased appetite;
- respiratory problems;
- extreme anorexia;
- hypothermia;
- convulsions;
- cardiovascular problems which can lead to death;
- euphoria;
- irritability;
- confusion;
- tremors;
- anxiety;
- paranoia;
- violent behaviour;
- can cause irreversible damage to blood vessels in the brain, producing strokes.

Methamphetamine users who inject the drug and share needles are at risk for acquiring HIV and AIDS, hepatitis B and other diseases transmitted by the use of dirty needles. Methamphetamine is an increasingly popular drug at raves (all-night dance parties) and as part of a number of drugs used by college-aged students.

Cannabis and alcohol are commonly listed as additional drugs of abuse among methamphetamine treatment admissions. Most of the methamphetamine-related deaths involve methamphetamine in combination with at least one other drug, most often alcohol, heroin, or cocaine. Researchers continue to study the long-term effects of methamphetamine use.

Straight facts... about ecstasy[3]

Ecstasy first came into widespread use with the emergence of techno music and parties known as 'raves', where users stayed up all night dancing for hours on end. It is part of a new category of substances that have emerged with advances in chemistry, so-called "designer drugs", and taken in pill form. It is a stimulant derived from amphetamine and has similar properties, causing excitation and physical and mental prowess while suppressing fatigue, hunger and pain.

Physical Risks:

- dehydration;
- irregular heart beat, high blood pressure and other cardiovascular problems;
- hepatitis;
- brain damage;
- sudden death.

Psychological Risks:

- anxiety and panic;
- mood swings and depression;
- aggressive behaviour.

Ecstasy can be especially dangerous for people taking other medications and for people with underlying health problems.

Straight facts... about cocaine and crack

Cocaine is a white powder that comes from the leaves of the South American coca plant. Crack is a smokable form of cocaine that has been chemically altered. Cocaine and crack are highly addictive. This addiction can erode physical and mental health and can become so strong that these drugs dominate all aspects of an addict's life. Cocaine belongs to a class of drugs known as stimulants which tend to give a temporary illusion of limitless power and energy that leave the user feeling depressed, edgy, and craving more. Cocaine is either "snorted" through the nasal passages or injected intravenously.

Physical risks associated with using any amount of cocaine and crack:

- increases in blood pressure, heart rate, breathing rate, and body temperature;
- heart attacks;
- strokes;

3 Adapted from: Ecstasy, Copyright 2010 CQLD. Available at : http://www.cqld.ca/livre/en/en/11-ecstasy.htm

- respiratory failure;
- hepatitis B or HIV and AIDS through shared needles;
- brain seizures;
- reduction of the body's ability to resist and combat infection.

Even first-time users may experience seizures or heart attacks which can be fatal.

Psychological risks associated with using any amount of cocaine and crack:

- violent, erratic, or paranoid behaviour;
- hallucinations and "coke bugs" – a sensation of imaginary insects crawling over the skin;
- confusion, anxiety and depression;
- loss of interest in food or sex;
- "cocaine psychosis" – losing touch with reality, loss of interest in friends, family, sports, hobbies, and other activities.

Cocaine and crack use have been a contributing factor in a number of drownings, car crashes, falls, burns, and suicides.

Straight facts... about hallucinogens

Hallucinogenic drugs are substances that distort the perception of objective reality. The most well known hallucinogens include phencyclidine, otherwise known as PCP; angel dust; loveboat; lysergic acid diethylamide, commonly known as LSD or acid; mescaline and peyote; and psilocybin or "magic" mushrooms.

Under the influence of hallucinogens, the senses of direction, distance, and time become disoriented. Hallucinogens can produce unpredictable, erratic, and violent behaviour in users which can ultimately lead to serious injuries and death. The effect of hallucinogens can last up to 12 hours. LSD produces tolerance: users who take the drug repeatedly must take higher and higher doses in order to achieve the same state of intoxication. This is extremely dangerous, given the unpredictability of the drug, and can result in increased risk of convulsions, coma, heart and lung failure, and even death.

Physical risks associated with using hallucinogens:

- increased heart rate;
- increased blood pressure;
- sleeplessness;
- tremors;

- lack of muscular coordination;
- sparse, mangled, and incoherent speech;
- decreased awareness of the feeling of touch and pain that can result in self-inflicted injuries;
- convulsions;
- coma;
- heart and lung failure.

Psychological risks associated with using hallucinogens:

- a sense of distance and estrangement;
- depression, anxiety, and paranoia;
- violent behaviour;
- confusion, suspicion, and loss of control;
- flashbacks;
- behaviour similar to schizophrenic psychosis;
- catatonic syndrome whereby the user becomes mute, lethargic, disoriented and makes meaningless repetitive movements.

Everyone reacts differently to hallucinogens – there is no way to predict if you can avoid a "bad trip".

Straight facts... about inhalants

Inhalants refer to substances that are sniffed to give the user an immediate head rush or high. Inhalants include a diverse group of chemicals that are found in consumer products such as aerosols, cleaning solvents and paint.

Inhalant use can cause a number of physical and emotional problems and even one-time use can result in death.

Using inhalants even one time can put you at risk for:

- sudden death;
- suffocation;
- visual hallucinations and severe mood swings;
- numbness and tingling of the hands and feet.

Prolonged use of inhalants can result in:

- headache;

- muscle weakness;
- abdominal pain;
- decrease or loss of sense of smell;
- nausea and nosebleeds;
- hepatitis;
- violent behaviour;
- irregular heartbeat;
- liver, lung, and kidney impairment;
- irreversible brain damage;
- nervous system damage;
- dangerous chemical imbalances in the body.

Short-term effects of inhalants include:

- heart palpitations;
- breathing difficulty;
- dizziness;
- headaches.

Even one single use of inhalants can cause death. According to medical experts, death can occur in at least five ways:

- asphyxia – solvent gases can significantly limit available oxygen in the air, causing breathing to stop;
- suffocation – typically seen with inhalant users who use bags;
- choking on vomit;
- careless behaviours in potentially dangerous settings;
- sudden sniffing death syndrome, presumably from cardiac arrest.

Straight facts... about opiates

Opiates are narcotic drugs that briefly stimulate certain areas of the brain and then depress the central nervous system; they include opium, codeine, morphine and heroin. Opiates are produced from the seed pod of the Asian poppy, and codeine and morphine are derived from opium. Other drugs, such as heroin, are processed from morphine or codeine. Opiates can be smoked, injected or taken orally or rectally. Withdrawal symptoms from opiate abuse are severe and heroin is the most addictive of all abused substances.

Effects of opiate use include:

- a “rush” followed by a state of gratification;
- suppression of hunger, pain, sexual urges;
- nausea;
- vomiting;
- restlessness;
- drowsiness;
- slow to profound respiratory depression;
- slow reflexes;
- slow speech;
- dry skin;
- itching;
- in pregnant women: anaemia, cardiac disease, diabetes, pneumonia, hepatitides, high rates of spontaneous abortion, breech delivery, premature birth, still-births;
- withdrawal symptoms: uneasiness, yawning, tears, diarrhoea, abdominal cramps, runny nose, craving for the drug.

Long-term use can result in:

- endocarditis (infection of heart lining and valves);
- HIV and AIDS (from use of dirty needles);
- abscesses;
- cellulitis;
- liver disease;
- brain damage;
- pulmonary complications.

Of special note:

Morphine and codeine can be ingredients in cough syrups, pain relievers and other prescription and non-prescription medication. Caution should be specially exercised in operating vehicles and in working with dangerous machines and materials.

Gender differences in response

Drinking is a gender issue everywhere; men do more of the drinking (in some places they do most or all of the drinking), but women disproportionately suffer the consequences.

At the same time, there is evidence that the 'gender gap', or the differences in substance abuse between men and women, is narrowing. As the use of alcohol and other drugs among women increases, so do the negative effects of use. Sometimes it is the delicate juggling act that many women have to perform between work and other responsibilities which pushes them towards using alcohol or other drugs (National Health Service, 2010).

In the UK, the links between employment, drinking habits and alcohol problems appear to be particularly strong in women. Women who are in gainful employment are significantly more likely to drink more than the 'sensible limits' of regular alcohol use.

Source: NHS, 2010.

Women tend to use different drugs to men. They typically use legal drugs more than men and have higher rates of addiction to drugs such as tranquillizers, sleeping pills, amphetamines and diet pills.

The indirect effect of drugs and alcohol on women is colossal. Women bear the brunt of "managing" substance abusers in the family, whether it be parents, siblings, husbands or children. Women involved in a relationship with an active abuser often suffer violent and abusive behaviour. They are left to cope with broken homes, lost jobs and the task of taking on extra paid work to make up for family earnings squandered on drugs or alcohol.

According to data from the National Institute on Drug Abuse (NIDA) Evidence suggests that women who abuse drugs are less likely than men to seek alcohol and drug treatment. In the past, perceived social stigma and other issues such as childcare and pregnancy may have hindered women's help-seeking patterns into substance abuse treatment and contributed to their underdiagnosis, underdetection, and lower rates of referral to treatment.

Source: Johnston, 2006.

Alcohol affects women differently to men, in part for physiological reasons. For example, women have less body water than men, so drinking the same amount of alcohol creates higher concentrations of alcohol in their blood than in men's blood. Women and men also have different enzymes and hormones which, in part, explains the gender differences in alcohol tolerance. For drug abuse, research suggests that women may be more sensitive than men to the rewarding effects of drugs because of different brain chemistry, which can mean that they tend to become more rapidly addicted to drug use.

Evidence indicates that psychosocial factors play a more important role for women than for men in beginning and continuing drug use. More female than male drug abusers have suffered from problems like childhood physical and sexual abuse, depression and post-traumatic stress disorder, poor relationships with a significant other, and partner violence.

As far as alcohol is concerned, women also have to consider the effects of drinking during pregnancy. Heavy drinking while pregnant can lead to miscarriage, premature birth and fetal alcohol syndrome, which hinders the proper development of the baby's nervous system.

3. Impact

Drug and alcohol abuse is a widespread problem in many countries around the world, as the following notes and statistics show. Where abuse is also high, the impact on work, on families and on family income is high. The national economy suffers, people's health suffers, and impact on health services increases as well.

Notes from around the world

Australia: In a survey carried out by the Australian Government in 2007, nine out of every ten Australians aged 14 years and over had tried alcohol at some time in their lives, and 82.9 per cent had consumed alcohol in the 12 months preceding the survey. Almost two in every five Australians had used an illicit drug at some time in their lives and almost one in seven had used illicit drugs in the previous 12 months.

Canada: The Canadian Addiction Survey in 2009 found that 76.5 per cent of Canadian adults were current drinkers, and of these, 36.4 per cent drank weekly and 5.1 per cent were described as heavy drinkers. The number of marijuana (cannabis) users had doubled in 10 years. One in six Canadians reported using an illicit drug other than cannabis in their lifetime.

European Union: The European Monitoring Centre for Drugs and Drug Addiction (2009) examined drug use throughout the EU and estimated that for 13 European countries where data was collected, 4 million people use cannabis on a daily basis. It also reports of findings, such as the use of new psychoactive substances.

India: Benegal (2005) reported drinking in only 21 per cent of men; the problem was regional, from an average of 7 per cent in the Western state of Gujarat (officially under prohibition) to 75 per cent in the North Eastern state of Arunachal Pradesh. It is also estimated that illicitly distilled spirits accounted for 95 per cent of the alcoholic beverages drunk by men and women.

Japan: Two major factors accelerate access to illicit drugs among young people: one is the presence of illicit drug-dealing groups, which indiscriminately offer them, the other is new technology, such as the Internet and mobile phones (Yamamoto, 2004).

Philippines: A study by the International Labour Organization on drug use by children working in the drug trade in a Philippine city found that over 90 per cent of children used drugs such as methamphetamine, glue and cannabis, and the majority of children in that sector began working in the drug trade at age 14-16.

South Africa: The Sacendu Project monitoring alcohol and drug use found that alcohol is still the dominant substance of abuse and has a major impact on individuals and society, accounting for between 61 per cent and 74 per cent of admissions to specialist treatment centers. Alcohol related diagnoses among psychiatric patients have been reported as high as 17 per cent.

Sri Lanka: Studies in 2007 reported on by FORUT indicate that 30 per cent of families used alcohol and spent more than 30 per cent of their income on it.

United Kingdom: In 2007, around 40 per cent of patients admitted to Accident and Emergency Departments are diagnosed with alcohol related injuries. 460 deaths were caused by drivers over the legal alcohol limit. A further 1,760 serious causalities and 12,260 slight causalities were attributed to intoxicated drivers or pedestrians according to UK Charity NGO Drinkaware.

Impact on the Workplace

Substance use and abuse occur in virtually all branches of industry and among all types of people; however, studies have shown that men, young workers, and workers in certain sectors or occupations are more likely to be associated with workplace substance abuse, and 3 per cent of the average workforce is alcohol-dependent globally (ILO, 2003).

Studies indicate that rates of alcohol and drug use are higher among workers who:

- work in high stress jobs; e.g., managers, sales staff, physicians, lawyers, bartenders, entertainers;
- work in unsupervised situations; e.g., long distance drivers, travelling salespersons;
- work under extreme conditions; e.g., army personnel, mining industry workers;
- work round the clock across different time zones in call centres and information technology services.

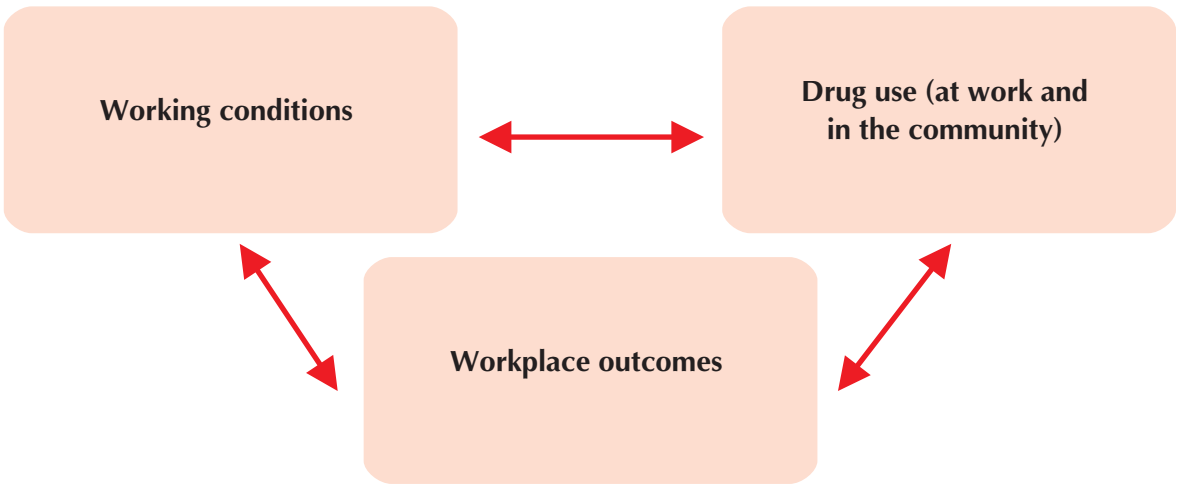
However, no sector is completely free of workplace problems related to alcohol or drugs.

(ILO, 2003).

Becker (2001) estimates that up to 54 per cent of alcohol-related incidents (such as accidents, quarrels, absenteeism, crime), are attributed to light drinkers, with 87 per cent in total attributed to light and moderate drinkers, simply because there are significantly more of them.

Problems relating to alcohol and drug use may arise from personal, family or social factors, or from certain work situations, or from a combination of these elements.

Scientific evidence, linking working conditions to the use of alcohol and drugs have shown the following as contributing factors to substance abuse in the workplace: the availability of alcohol and drugs at work, social pressure to drink or to use drugs at work, work-related stress, travel/separation from normal social or sexual relationships, lack of supervision, frequent changes in co-workers and supervisors, monotonous work, shift work, night work, precarious employment and the possibility of unemployment.



All professions are subject to workplace abuse of substances, it is estimated that between 10 per cent and 15 per cent of physicians have abused alcohol or other drugs in their lifetime. Anesthesiologists are particularly vulnerable to parenteral opioids (drugs administered during child labour) due to their hands-on-access. (Domino, 2005).

Work-related factors that may increase the use of alcohol and drugs, especially in vulnerable workers, include:

- shift work;
- travel away from home or working in remote locations;
- cultural norms that encourage substance use;
- availability of alcohol and drugs in or near the workplace;
- job stress, which may result from unequal pay, unclear roles, job insecurity, unsatisfactory communication, boredom, lack of creativity and variety;
- lack of control over work (for example on the extra hours worked, or of the workload itself).

A common misconception is that alcoholics are responsible for most alcohol-related workplace problems. Casual drinkers often account for far more incidents of absenteeism, late arrival at work and poor quality of work, than those who are addicted to alcohol. The Harvard School of Public Health Corporate Alcohol Study and the Robert Wood Johnson Foundation found that the majority of alcohol-related work performance problems (60 per cent) are associated with non-dependent drinkers: people who may occasionally drink too much – estimated to be 80 per cent of all drinkers (National Institute on Alcohol Abuse; Robert Wood Johnson Foundation, 1998).

Becker (2001) found a positive relationship between being "hung-over" and feeling sick at work, sleeping on the job, and having problems with job tasks or co- workers.

Hangovers also put sufferers at risk of cardiac, neurological and psychiatric problems and cost society about US$148 billion a year, according to a study in the Annals of Internal Medicine.

In some jobs, even drinking small amounts of alcohol off the job can have a critical effect. Pilots whose performance was tested in flight simulators, by Yesavage (1994) made more mistakes than usual even 8 hours after their blood alcohol concentrations (BAC) was approximately 0.10 BAC (the legal limit to drive in many countries is 0.05 BAC, which typically is about one drink). More importantly the effect of the hangover is beginning to be investigated: the next day, as BAC approaches zero, the affects of the hangover can continue for another 24 hours.

Work-related cost of alcohol and drug consumption:

- losses caused by accidents;
- increased workers compensation premiums;
- reduced work rate and poor quality of work because of intoxication or hangover;
- increased sickness absence;
- increased staff turnover and associated costs of training replacement workers;
- increased incidence of lateness for work;
- theft and damage at the workplace.

Substance abuse has a strong impact on the workplace, including general job performance (for example lower quality products, work needing to be redone), job turn-over when workers leave the company (such as loss of institutional memory, severance pay, recruitment and orientation costs), legal liabilities associated with accidents and injuries, increased sick leave or other workers' health benefit costs, disruptive behaviour and declining work relationships, stealing and vandalism, grievances and arbitrations.

While some of the costs such as increased absences, accidents and errors can be seen or measured, others are more difficult to identify, such as low morale and high illness rates. The effects are equally harmful.

The first signs of alcohol or drug abuse are sickness, hangover, hand tremors, late arrivals, long lunch breaks and early departures. Abuse often leads to stress, nervousness, irritability, resentment and reduced morale, friction and quarrels with co-workers. These can be accompanied by shoddy workmanship, lower output and unsound decisions that may cause or contribute to workplace accidents, decreased productivity, missed deadlines and lost business.

Costs of alcohol and drug abuse in the home are often also borne in the workplace

If a family member is abusing alcohol and drugs, the related worker can experience distraction, reduced productivity and poor concentration, missing deadlines and making errors in judgment. The worker may have to take on additional child minding and household tasks to cover for the family member with an addiction problem, which can impact on the workplace.

Impact on the individual

Psychoactive substances can affect reaction time, motor performance, vision, mood and feelings, learning, memory and intellectual performance, overall health and relationships with co-workers. Any of the mentioned changes can lower the level of work performance.

The problem can also be felt beyond "the factory gates" in the form of trouble and distress in the family and financial difficulties, as well as increased social costs.

Impact on co-workers

The effect of substance use on co-workers can include increased workload, higher safety risks and reduced overall output. These in turn can lead to disputes, grievances, lost time and reduced productivity. The situation is likely to be made worse by the increased possibility of accidents and injuries due to intoxication, negligence and impaired judgment.

Cost to the employer

> The Australian Chamber of Commerce estimates that up to 25 per cent of accidents and 10 per cent of fatalities at work involve intoxicated people injuring themselves and innocent victims.

The costs related to alcohol and drug abuse add up to a major consideration for any employer. The sickness connected with alcohol and drug abuse increases medical costs, while absenteeism lowers availability of manpower and decreases output. Working relationships can deteriorate. The resulting grievances cause losses because of the cost in both time and money. Poor work performance, unsound decisions and impaired judgment lead to missed deadlines and loss of business. Accidents cause injuries and damage to property and equipment which, together with lost production time due to breakdowns, increases the employer's expenses. If substance abuse leads to dismissals, the employer faces additional costs of recruitment and retraining, as well as the loss of experienced workers.

Substance abuse can also be a threat to public safety and damaging to the employer's image. Companies are increasingly aware that the workplace mirrors the community and that community problems will likely become workplace problems (Australian Chamber of Commerce and Industry, 2007).

4. Managing alcohol and drugs at work

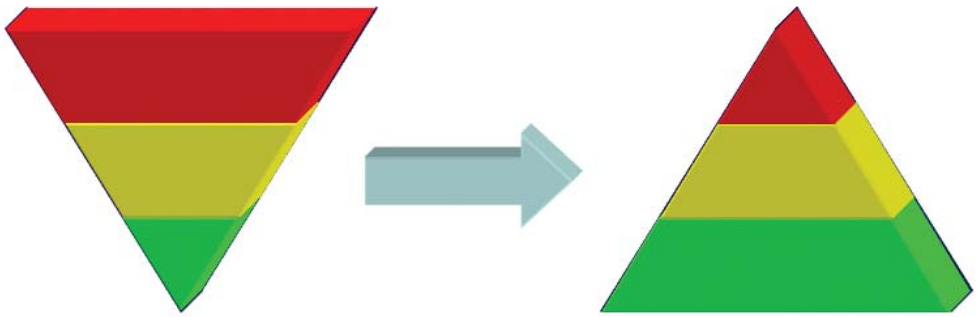
Traditional responses and the paradigm shift

The traditional reaction to alcohol and drug problems affecting the workplace was to respond to the needs of a small number of individuals who were regarded as alcoholics or drug addicts. This **passive approach** implies that enterprises are willing to absorb costs over a long period of time.

Over the past two decades this attitude has changed. There are new occupational safety requirements and increased awareness of the impact of substance use on productivity, safety and health. As a result, a shift towards **prevention** and early **intervention** has taken place.

The new emphasis is on preventing substance abuse among all workers, rather than exclusively providing assistance for a few. While help and care is still available to those who need it, the main focus is on creating awareness through educational programmes with the aim of bringing about changes in attitude and behaviour.

The paradigm shift



- The focus of our efforts needs to be on preventing healthy workers from becoming ill.
- Therefore the paradigm shift is from treatment to prevention.

The traffic light metaphor can be used to categorize workers into green, amber and red zones based on their substance use status, and is particularly relevant to alcohol consumption.

The green zone suggests no use of alcohol or drinking in moderation, with no problem whatsoever.

The amber zone is use to excess or in problem ways, such as drinking and driving. It is best for workers in the amber zone to slow down or stop alcohol use.

The red zone indicates a dependent pattern of use; indications of this are:

- increasing the amount of alcohol to get the desired effect;
- continued drinking despite knowing what harm is being done;
- troublesome withdrawal symptoms including trembling of the hands; sleep problems, craving when not drinking;
- failure to fulfil major work or home responsibilities.

Workers in the red zone need professional assistance or treatment.

Comprehensive workplace programmes need to address workers in all three zones, with an emphasis on the green zone to prevent problem use of alcohol or drugs.

Most workers in any organization are in the green zone and the challenge is to keep them there.

Green zone strategies reach a large population, they are relatively inexpensive, and look at ways of preventing substance use, which include developing healthy lifestyles.

Amber zone strategies assist workers in identifying early and potential problems associated with substance use. They encourage workers to monitor their own behaviour and change it if possible. Early intervention, which often provides good and long-lasting results, becomes possible.

Red zone strategies such as treatment and rehabilitation are intensive, expensive, reach only a few, and there are difficulties with long-term results due to frequent relapses. They need to be available for workers who already have significant problems.

Advantages of Workplace Substance Abuse Initiatives

- It is an effective location for early intervention, treatment and re-integration into work;
- workplace programmes reach the entire workforce;
- the workplace offers a target group for prevention campaigns;
- the workplace mirrors the community. Handling workplace problems can reduce the burden on the community.

Policy and strategy

In order to plan, organize, implement and improve efforts to prevent and treat drug and alcohol problems at work, company policy first needs to be adjusted. The policy should address alcohol and drugs as part of an integrated occupational safety and health policy. It should lay down guidelines which apply to all areas of the workplace, such as workers' consultation and confidentiality.

Working from this basis, detailed strategies on alcohol and drugs can be developed on how best to address the specific needs in the company in question. These should include ongoing prevention measures as well as information on the availability of external assistance for those who need it.

ILO Code of Practice

The *ILO Code of Practice on the Management of alcohol and drug-related issues in the workplace* (Geneva, 1996) focuses on the design of workplace policies and programmes to assist individuals with alcohol and drugs related problems to support both employers and workers and their organizations in dealing with the problem in a constructive way. It provides a broad range of practical recommendations as well as guidance on developing workplace policies and strategies. Some of the important issues raised in the Code of Practice are:

- consider alcohol and drug problems as health related;
- assess the impact of alcohol and drugs in the workplace;
- identify job situations that contribute to alcohol and drug abuse;
- provide information, education and training concerning alcohol and drugs to all workers;
- maintain confidentiality on information relating to alcohol and drug problems of individual workers;
- facilitate a supportive working environment for recovery from substances addiction;
- ensure non-discrimination of workers seeking treatment and rehabilitation for alcohol and drug related problems;
- prefer counselling, treatment and rehabilitation over disciplinary action.

Prevention

Prevention measures that affect the level of alcohol consumption among the whole population are among the most effective ways of preventing alcohol related problems.

Several prevention-oriented strategies can be adopted to respond to drug related harm. These can include:

- simple educational messages about the risks of alcohol and drug misuse;
- restrictions on alcohol and drugs use in the workplace;
- stress reduction programmes;
- health promotion and healthy lifestyle programmes;
- drug testing (if appropriate, see box below on testing);
- counselling facilities.

Another key aspect of a successful programme would be the identification and improvement of factors in the workplace that may heighten the risk for substance use. Risk assessment measures should be carried out as standard for other work-related hazards and substance abuse need to be incorporated.

Training of supervisors is a critical element for recognizing the early signs of substance abuse. Drug and alcohol abuse often has an impact on worker performance, so supervisors should be trained to identify and address performance issues. Colleagues may also notice a change in behaviour. Trained peer counsellors can be an effective means of prevention. A worker with increasing difficulties can talk to someone who can listen and refer them to appropriate sources of help, without having to go via the supervisor or through other official routes.

Effective workplace prevention approaches must also acknowledge the role of the larger community outside the specific workplace in shaping norms with respect to alcohol and drug use.

To test or not?

Workplace drug testing remains a sensitive issue because of the difficulty in balancing safety and productivity requirements against the rights of the worker to privacy and non-discrimination.

The most common reasons why employers implement drug testing are to:

- deter workers from abusing drugs and alcohol;
- avoid hiring individuals who use illegal drugs;
- provide early identification and referral of workers who have drug and/or alcohol problems;
- provide a safe workplace for other workers;
- ensure general public safety and instill consumer confidence that workers are working safely.

The ILO's Code of Practice on the Management of Drug and Alcohol Problems at Work provides detailed and thoughtful guidance on whether and how to implement a drug testing policy.

Assistance

Brief interventions have been successfully used by both health practitioners and community counsellors to help people change their drug or alcohol use. Examples of brief intervention strategies that can be effective include:

- self-assessment tools to detect early problems (for example: the AUDIT questionnaire for alcohol use problems, re-printed in Annex I);
- self-help material to stop or modify substance use and deal with the temporary but often unpleasant effects of quitting;
- information on the range of ways in which drugs affect work performance.

For the majority of workers with early alcohol or drug problems, the focus of counselling would be to help them to stop or reduce their use, and to encourage them to seek further assistance if they are unable to stop on their own. For workers with more severe problems, referral to specialized treatment services may be required.

> Treatment for addiction problems can occur in specialized treatment settings, general medical settings, workplaces, mutual self-help organizations and other voluntary groups. Ideally they need to be organized as an integrated community- based system.

In some countries, companies and organizations use Employment Assistance Programmes (EAP) to provide assessment and short-term counselling for workers experiencing drug and alcohol problems. The counselling often addresses problems related to the worker's health, marital relationship, family, financial situation, as well as substance use. An effective EAP provides easy access for workers requiring treatment services as well as providing support for management, supervisors or unions who want to respond to worker problems that have an impact on the workplace.

Those seeking assistance should be guaranteed normal job security while they get help. At the same time, many employers reserve the right to take disciplinary action if the treatment option is refused. These issues must be addressed beforehand in a workplace policy and be clearly communicated to the whole workforce.

Community and Family Linkages

The workplace reflects the level of permissiveness in society regarding the use of alcohol and other drugs. Equally, workplace attitudes towards substance abuse have a strong influence on workers' use of alcohol and drugs in their free time, and hence on the communities in which they live. In matters of substance abuse, the well-being of the workplace and the family go hand in hand, and the relationship between work and private life cannot be over-emphasised.

One area where enterprises can have a positive influence is on young workers, particularly if they act in cooperation with schools, healthcare organisations, community organisations and the public sector. Enterprises can support family and community activities on substance abuse prevention in many ways, including targeting parents and children for awareness, sponsoring school based activities, training and employment initiatives for recovering workers, lobbying local government, strengthening community recreation facilities and activities, and networking with community based treatment and rehabilitation services.

What's a Standard Drink?

1 standard drink =

1 can of ordinary beer
(e.g. 330 ml at 5%)

=

A single shot of spirits
(whiskey, gin, vodka, etc.)
(e.g. 40 ml at 40%)

=

A glass of wine or a small glass of sherry
(e.g. 140 ml at 12%
or 90 ml at 18%)

=

A small glass of liqueur or aperitif
(e.g. 70 ml at 25%)

How Much is Too Much? The most important thing is the amount of pure alcohol in a drink. These drinks, in normal measure, each contain roughly the same amount of pure alcohol. Think of each one as a standard drink.

In contexts where drinking is culturally accepted:

Remember; there are times when even one or two drinks can be too much – for example:

- When driving or operating machinery.
- When pregnant or breast-feeding.
- When taking certain medications.
- If you have certain medical conditions.
- If you cannot control your drinking.

5. Good Practices

ILO work in the field of alcohol and drug abuse at the workplace

ILO's experience shows that the workplace is an excellent environment for the development of broad partnerships for preventive action in the area of alcohol and drug abuse as part of a health promotion policy. Workplace policies to both prevent alcohol and drug abuse at the workplace and assist individuals with alcohol and drug related problems, would seem to yield the most constructive results for the benefit to all concerned, including employers, workers, their families, NGOs and society as a whole.

ILO action in this field is developed through the elaboration of a set of codes of practice, guides and manuals on the management of alcohol and drug related issues in the workplace, as well as technical cooperation activities to support national level action in ILO's member States. ILO's technical cooperation activities focus in the adaptation and implementation of model programmes for the prevention of drug and alcohol abuse at the national and enterprise levels in a number of countries. With the assistance provided, enterprises worldwide have been developing prevention and assistance programmes for their workforces. In many cases, these projects have been successful in setting up associations of resource managers against drug abuse. In each country, assistance was provided to set up tripartite advisory boards and national teams for project implementation. The establishment of associations of resource managers against drug abuse, along with the integration of prevention elements into human resources and occupational safety and health programmes at the enterprise level, were designed to ensure that substance abuse prevention initiatives were sustained long after the projects were completed. These and other projects have provided an important stimulus for action at enterprise and national level, particularly through the close involvement of representatives of the governments and national employers' and workers' representatives.

Wheels of Change: a transport company in India

Scientific research from both developed and developing countries shows that effective policy tools can be used to reduce alcohol related problems in the world of work.

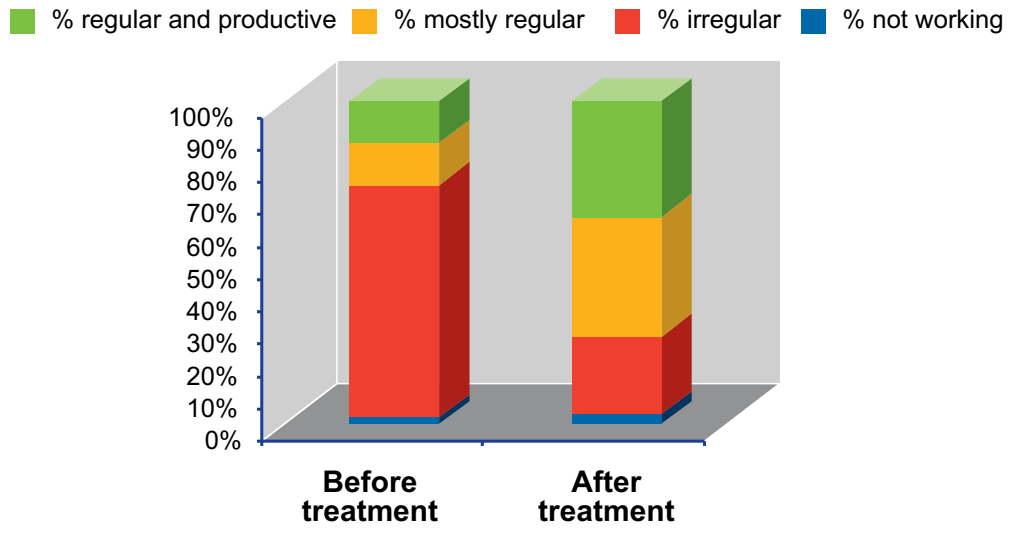
The Karnataka State Road Transport Corporation, among the top five in the country, has a statutory mandate to provide safe and reliable transport services to the public. The company had been making a loss for about a decade and accumulated losses of 4,000 million rupees (US$ 81.6 million) before it began systematically stocktaking the problems plaguing the corporation (Karnataka State Road Transport Corporation and National Institute of Mental Health and Neuro Sciences, 2004). The administration was struck by the relationship between alcohol use and various other problems within the

organization. Primarily they experienced high staff shortages due to absenteeism, leading to frequent bus service cancellations. In addition, there were thousands of disciplinary cases pending, and a high rate of stealing from transport earnings. It had earned the reputation of running 'killer buses' after a large number of fatal accidents involving its buses, ruining its public image. All of these organizational problems were thought to be linked with high rates of alcohol consumption. The administration decided to face the alcohol problem among its workers head on.

The company launched a Workplace Alcohol Prevention Programme and Activity (WAPPA). The corporation initiated several health camps to encourage workers to seek help for health related problems. Addiction was also treated as a health problem. Addicted workers were encouraged to obtain treatment from specialized rehabilitation centres. The corporation, in collaboration with the International Labour Organization and several non-governmental agencies in the area, developed a comprehensive alcohol and drug prevention programme to address not only the addiction in the "red zone", but also workers in the amber and green zones. It developed a comprehensive policy which was endorsed by all levels within the organization and released by the Minister of State for Transport, who was also the chairman of the company.

How the Alcohol and Drug Programme helped

Before the programme started, nearly 80 per cent of the workers were not working in a regular and productive way. After the programme, this was reversed with more than 70 per cent of the workers seen as useful, productive members of the corporation.



Source: ILO, 2003.

Five years following the initiation of the programme, treated workers showed marked improvement in:

- abstinence rates and reduction in drinking;

- absenteeism due to alcohol and ill health;
- health;
- family functioning and reduction in family problems;
- financial status through reduction in spending on alcohol, reduced debts and creation of assets;
- positive change in several lifestyle areas including gambling and high risk sexual behaviour.

In 2003, a focus group discussion was held for family members, principally the wives of the treated workers, to see if the addiction treatment had helped. Their responses were:

- the majority of the husbands had stopped or reduced drinking;
- family financial status improved;
- there was 'peace' at home following treatment.

WAPPA evolved as a worker outreach programme to motivate workers, cut down the corporation's losses and bring about better discipline. This unique preventive vigilance method was formulated to win over the workers and their family.

A Malaysian Success Story

Forty-four small and medium sized businesses implemented a drug free workplace programme in a Norwegian funded project implemented by the ILO. In an evaluation survey carried out at the end of the project period, over 80 per cent of respondents reported improvement in business performance, which they particularly saw in increased productivity, a decrease in work-related accidents, lower absenteeism and a fall in medical costs and compensation. Some 90 per cent of respondents felt that the programme should be continued and would recommend it to other companies and organizations.

The World Health Organization's European Charter on Alcohol states the following:

"All people have the right to a family, community and working life protected from accidents, violence and other negative consequences of alcohol consumption".

"Promote public, private and working environments protected from accidents and violence and other negative consequences of alcohol consumption".

The WHO Charter was signed by all Member States of the EU.

Social Partnerships – The Finnish Example

The Nordic countries were among the earliest in which the social partners (employers and workers) joined with other actors to develop joint drug and alcohol abuse prevention initiatives. The earliest and longest-standing of these initiatives include the Alna Council in Sweden, originally set up in the 1960s by national employers' and workers' organizations, and the Akan system in Norway, also developed by the social partners in the 1960s, which brings together representatives of employers, workers and occupational health services.

Countries such as Denmark and the Netherlands carry out annual national campaigns against drug and alcohol abuse with strong tripartite involvement. An interesting example of a policy shift towards a broad alliance on this issue is the Finnish National Alcohol Programme, which was developed in 1997. Finland had a tradition of using price and supply as mechanisms to restrict the consumption of alcohol, while under the new Programme, emphasis was placed on three new factors:

- participation and awareness among citizens and employers;
- workplace alcohol and drug programmes; and
- prevention.

Philippines – The Maritime Sector

The Philippines is the country with the largest number of seafarers employed in the global labour market. Recognizing the potential problems that could occur from the use of alcohol and other drugs on working boats, a Drug Free Workplace Programme in the Maritime Sector was initiated in the late 1990s. A training curriculum was developed and posters, brochures and video materials on the prevention of alcohol and drug abuse were produced. This training was integrated into the pre-departure orientation for seafarers. Alcohol and drug abuse prevention topics were included into the training curricula of personal safety. Action was taken to develop guidelines on drug and alcohol testing at enterprise and at government level. According to the Report of the Occupational Safety and Health Centre in 1998, the new personal orientation, training and changed work conditions contributed to a better workforce, greater awareness of risks related to substances of abuse abroad, strict standards of work ethics on board concerning alcohol and drugs, and greater attention to working conditions including working hours and duty shifts[4].

4 http://www.oshc.dole.gov.ph/index.php

6. Interrelationships

Drinking patterns are different in different parts of the world. In Western Europe, for many people, drinking is part of everyday life, while in a number of African societies fewer people drink. However, when they do drink, they usually drink large amounts, and this happens particularly at weekends. In many parts of the world there is currently a '24/7 culture', with people working extremely hard during the week, and completely 'unwinding' during the weekend, often involving heavy drinking.

Smoking, Drinking and Drug Use among young people in England

In a 2004 study, pupils who had recently smoked, drunk alcohol or used cannabis, inhalants or Class A drugs (including opiates, hallucinogens, ecstasy and cocaine) were likely to have also used one of the other substances. There were particularly strong relationships between:

- cannabis and cigarette use;
- smoking and alcohol use;
- cannabis and Class A drug use;
- alcohol and cannabis use.

Source: NHS, Dept. of Health, 2004.

Stress and alcohol and drugs

A worker's use of alcohol can be a response to physical and psychosocial aspects of work. Very high demands on the worker, leading to stress, or very low demands resulting in boredom, can be the reason for drinking. Lack of participation in decision-making and interpersonal conflict with supervisors and co-workers may have the same result. Resorting to alcohol and drugs to cope with sadness, fear, guilt or anxiety, but also in order to share positive feelings such as happiness, are common.

HIV and AIDS and alcohol and drugs

Alcohol and drug related problems rarely occur in a vacuum.

The relationship between the use of intoxicating substances and high risk sexual behaviour are well known:

- alcohol and drugs lower sexual inhibitions;
- the mood altering effects of alcohol and drugs lead to high risk behaviour and multiple sexual partners;

- alcohol and drugs are often used to cope with depression, anxiety, physical pain and long working hours (especially in some professions like truck driving). This in turn leads to loss of control, unsafe sex and HIV risk.

The connection between HIV infection and substance use is especially important. Injection-drug use, directly or indirectly, is the main means of HIV transmission in heterosexual adults, women, minorities and children.

> A group of workers from South Africa were asked how they handled stress. A very common response was that they got drunk and often visited the local brothel.

Violence and Substance Use

The relationship between violence and substance abuse is complex. The effect of a drug on an individual's behaviour is the result of a range of drug and non-drug factors which include:

- the pharmacological property of the drug in question;
- the individual's temperament;
- the person's own expectation of the drug's effects;
- the social setting in which the drug is used.

Both drug use and violence may result from the basic inability to control one's impulses. Violence is also associated with the trafficking and distribution of drugs.

An Integrated Prevention Approach

Workplace health promotion programmes can be successful in addressing multiple psychosocial problems. Such programmes can encourage workers to gain a sense of control over their health in general or in relation to a particular health problem such as diet or exercise. Workplace health promotion programmes can also sensitize workers to the interrelationships between different psychosocial problems and may provide workers with a work-related motivation to change their habits and maintain the change.

7. Policy Integration

What should a policy look like?

Alcohol and drugs should be included in a comprehensive policy dealing with all problems related to occupational safety and health in the organization or enterprise. It should be jointly developed by all involved parties. The policy framework should be clear, consistent, comprehensible, accessible and include the following:

- improvement of the working environment;
- prevention measures such as information, education, self-assessment and health promotion;
- supervisory training, counseling, treatment, rehabilitation and follow-up;
- control measures.

Many of these policy recommendations are applicable not only to alcohol and drugs but to all psychosocial problems. For example, the box below is taken from advice specifically responding to alcohol and drugs problems at work. Points five and six refer to alcohol and drugs only. All the other points are equally useful for an integrated workplace policy on psychosocial problems.

Ten ingredients for developing and implementing a drug and alcohol policy at the workplace

1. Consultation across all levels at the development phase.
2. Universal application to all workers.
3. Policy which is specific to the organization, addressing the complexities and organizational culture of the workplace and taking into consideration social, organizational and individual factors.
4. Comprehensive policy.
5. Clearly contained instructions and procedures for responding to alcohol and drug-related incidents.
6. Consider drug testing as a potential and complex option that can be applied only to limited domains.
7. Recognize that change should be gradual and informed.
8. Publicise the policy in an appropriate and equitable manner.
9. Ensure employee compliance through the definition of roles and responsibilities and education and training.
10. Evaluate the implementation process.

Source: Allsop; Philips; Calogero, 2003.

Bibliography

Allsop, S.; Phillips, M.; Calogero, C. 2003. *Drugs and Work. Responding to Alcohol and Other Drug Problems in Australian Workplaces* (Melbourne, Victoria, IP Communications).

Babor, T.F.; Higgins-Biddle, J.C. (eds.). 2001. *Brief Intervention for Hazardous and Harmful Drinking. A Manual for Use in Primary Care*. (World Health Organization). Available at: http://whqlibdoc.who.int/hq/2001/WHO_MSD_MSB_01.6b.pdf

Becker, J. 2001. "The Alcohol Hangover" in *The Annals of Internal Medicine*, Vol. 134, pp. 533–534.

Benegal, V. 2005. India: Alcohol and Public Health in *The Globe*, Issue 2 (London, Insitute of Alcohol Studies). Available at: http://www.ias.org.uk/resources/publications/theglobe/globe200502/gl200502_p7.html

Caborn, J.; Shahandeh, B. 2003. *Ethical issues in workplace drug testing in Europe*. Prepared for Seminar on Ethics, Professional Standards and Drug Addiction, organized by the Pompidou Group co-operation group to combat drug abuse and illicit trafficking in drugs (Council of Europe).

Colombo Plan Drug Advisory Programme. 2002. *A Guide to Mobilize Businesses/Workplaces to Prevent Drug Abuse in Asia*.

Domino K.B. et al. 2005. "Risk factors for Relapse in Health Care Professionals with Substance use Disorder" in *Journal of the American Medical Association*, Vol. 293, No. 12, pp. 1453–1460.

Executive Office of the President; Office of National Drug Control Policy. 2004. *The economic Costs of Drug Abuse in the United States 1992–2002* (Washington, D.C.)

International Labour Office. 1996. *Management of alcohol-and drug-related issues in the workplace. An ILO Code of Practice* (Geneva).

Health and Safety Executive. 1998. *Drug misuse at work. A guide for employers* (Sudbury, United Kingdom, HSE Books). Available at: http://www.hse.gov.uk/pubns/indg91.pdf

International Labour Office (ILO). 1996. *Management of alcohol-and drug-related issues in the workplace. An ILO Code of Practice* (Geneva).

—. 2003. *Alcohol and drug problems at work: The shift to prevention* (Geneva).

Johnston, L. D. et al. 2009. *Monitoring the Future national survey results on drug use, 1975–2008. Volume I: Secondary school students* (Bethesda, Maryland, NIH Publication No. 09-7402, National Institute on Drug Abuse).

Karnataka State Road Transport Corporation and National Institute of Mental Health and Neuro Sciences. 2004. *The Workplace Alcohol Prevention Programme and Activity (WAPPA)*
Available at:
http://www.nimhans.kar.nic.in/deaddiction/CAM/workplace_intervention.pdf

Lepiten, M. 2002. *Children's Involvement in the Production, Sale and Trafficking of Drugs in Cebu City: A Rapid Assessment*, No. 22 (Geneva, ILO-IPEC).

Mangione, T.W. et al. 1999. Employee Drinking Practices and Work Performance in *Journal of Studies on Alcohol,* Vol. 60, No. 2 pp. 261–270.

National Health Service. 2005. *Smoking, drinking and drug use among young people in England in 2004*. National Statistics, Department of Health, NHS.
Available at:
http://www.ic.nhs.uk/statistics-and-data-collections/health-and-lifestyles-related-surveys/smoking-drinking-and-drug-use-among-young-people-in-england/smoking-drinking-and-drug-use-among-young-people-in-england-in-2010

—. 2010. *Statistics on Alcohol, England 2010* (The Health and Social Care Information Centre)
Available at: http://www.ic.nhs.uk/pubs/alcohol10

National Institute on Alcohol Abuse and Alcoholism; Robert Wood Johnson Foundation. 1998a. "Perspectives for Worksite Alcohol Strategies: Results from a Corporate Drinking Study" in *Drug Strategies, Millennium Hangover: Keeping Score on Alcohol*
Available at: http://www.drugstrategies.org/keepingscore1999/adults.html

—. 1998b. *Study on Worksite Prevention of Alcohol Problems and its Dissemination*. Available at: http://www.rwjf.org/reports/grr/031314s.htm

National Institute on Alcohol Abuse and Alcoholism. 1999. *Alcohol Alert*, No. 44. (Bethesda, Maryland).
Available at: http://pubs.niaaa.nih.gov/publications/aa44.htm

- National Institutes of Health. 2003. *Alcohol: A Women's Health Issue*. (Bethesda, Maryland, NIH Research Publication No 03-4956).

- Roman, P.M.; Blum, T.C. 2002. "The Workplace and Alcohol Problem Prevention" in *Alcohol Research and Health*, Vol. 26, No. 1 (Bethesda, Maryland).

- Swift, R.; Davidson, D. 1998. "Alcohol hangover. Mechanisms and Mediators" in *Alcohol Health Research World*, Vol. 22, pp. 54–60.

- United Nations Office on Drugs and Crime (UNDOC). 2010. *World Drug Report 2010* (New York). Available at: http://www.unodc.org/documents/wdr/WDR_2010/World_Drug_Report_2010_lo-res.pdf

- —. 2001. *What do people think they know about substance dependence* (Management of Substance Dependence Team, Geneva).

- —. 2004. Global Status Report on Alcohol 2004. (Geneva). Available at: http://www.who.int/substance_abuse/publications/global_status_report_2004_overview.pdf

- —. 2011. Global Status Report on Alcohol 2011. (Geneva) Available at: http://www.who.int/substance_abuse/publications/global_alcohol_report/en/index.html

- Yamamoto, J. 2004. "Recent Trends of Drug Abuse in Japan" in *Annals of the New York Academy of Sciences*, Vol. 1025 (Wiley), pp. 430–438.

- Yesavage, J.A.; Dolher, N.; Taylor, J.L. 1994. "Flight simulator performance of younger and older aircraft pilots: effects of age and alcohol" in *Journal of the American Geriatics Society*, Vol. 42, pp. 577–582.

Websites

- Alcohol Problems in Developing Countries. Challenges for the New Millenium 2000. http://www.sahealthinfo.org/admodule/Suchtmed.pdf

- Australian Chamber of Commerce and Industry (2007), Issues Paper Drugs and Alcohol in the Workplace http://www.acci.asn.au/text_files/issues_papers/2007/February/Drugs&AlcoholInTheWorkplaceFeb2007.pdf

- Australia Institute of Health and Welfare, 2007 National Drug Strategy Household Survey. http://www.aihw.gov.au/publications/phe/ndshs07-fr/ndshs07-fr-no-questionnaire.pdf

- India: Alcohol and Public Health. The Globe Issue 2 Global Alcohol Policy Alliance http://www.ias.org.uk/resources/publications/theglobe/globe200502/gl200502_p7.html

- Canadian Centre on Substance Abuse www.ccsa.ca/eng/topics/populations/workplace/pages/default.aspx

- Drink Aware Campaign 2010 http://www.drinkaware.co.uk/facts/factsheets/alcohol-and-accidents

- European Monitoring Centre for Drugs and Drug Addiction (EMCDDA): General Report of Activities 2008 http://www.emcdda.europa.eu/attachements.cfm/att_80990_EN_gra2008.pdf

- FORUT Alcohol Drugs and Development Fact Sheet http://www.add-resources.org/fact-sheets.76589.en.html

- Institute of Alcohol studies. Alcohol and the workplace. IAS fact sheet, 2007. http://www.ias.org.uk http://www.ias.org.uk/resources/factsheets/workplace.pdf

- Institute for the Study of Drug Dependence. http://www.drugscope.org.uk/

- Economic costs of alcohol and other drugs at the workplace http://www.nceta.flinders.edu.au/ pdf/proceedings2001/lapsley.pdf http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsStatistics/DH_4118305

- National Institute on Drug Abuse
  http://www.drugabuse.gov/nidahome.html

- Activation of the Reward Pathway by Addictive Drugs
  http://www.drugabuse.gov/pubs/teaching/Teaching5/Teaching.html

- New South Wales Office on Drug and Alcohol Policy. Changing the culture of alcohol use in NSW.
  http://www.alcoholinfo.nsw.gov.au/

- NHS Information Centre, Statistics on Alcohol: England 2010
  www.ic.nhs.uk/webfiles/publications/alcohol10/Statistics_on_Alcohol_England_2010.pdf

- South African Community Epidemiology Network on Drug use
  http://www.sahealthinfo.org/admodule/sacendu2.htm

- US Department of Labor. Working Partners for a drug free workplace
  http://www.dol.gov//workingpartners/welcome.html

- World Health Organization's Global Status Report on Alcohol, 2004
  http://www.who.int/substance_abuse/publications/global_status_report_2004_overview.pdf

- World Health Organization's European Charter on Alcohol, 1995
  http://www.euro.who.int/__data/assets/pdf_file/0007/79396/E88335.pdf

Annex I

Self-assessment Questionnaire

Please circle the answer that is correct for you.

1. How often do you have a drink containing **alcohol**?

- ☐ Never
- ☐ Monthly or less
- ☐ 2-4 times a month
- ☐ 2-3 times a week
- ☐ 4 or more times a week

2. How many standard drinks containing **alcohol** do you have on a typical day when drinking?

- ☐ 1 or 2
- ☐ 3 or 4
- ☐ 5 or 6
- ☐ 7 to 9
- ☐ 10 or more

3. How often do you have six or more drinks on one occasion?

- ☐ Never
- ☐ Less than monthly
- ☐ Monthly
- ☐ Weekly
- ☐ Daily or almost daily

4. During the past year, how often have you found that you were not able to stop drinking once you had started?

- ☐ Never
- ☐ Less than monthly
- ☐ Monthly
- ☐ Weekly
- ☐ Daily or almost daily

5. During the past year, how often have you failed to do what was normally expected of you because of drinking?

☐ Never

☐ Less than monthly

☐ Monthly

☐ Weekly

☐ Daily or almost daily

6. During the past year, how often have you needed a drink in the morning to get yourself going after a heavy drinking session?

☐ Never

☐ Less than monthly

☐ Monthly

☐ Weekly

☐ Daily or almost daily

7. During the past year, how often have you had a feeling of guilt or remorse after drinking?

☐ Never

☐ Less than monthly

☐ Monthly

☐ Weekly

☐ Daily or almost daily

8. During the past year, have you ever been unable to remember what happened the night before because you had been drinking?

☐ Never

☐ Less than monthly

☐ Monthly

☐ Weekly

☐ Daily or almost daily

9. Have you or someone else been injured as a result of your drinking?

☐ No

☐ Yes, but not in the past year

☐ Yes, during the past year

10. Has a relative or friend, doctor or other health worker been concerned about your drinking or suggested you cut down?

- ☐ No
- ☐ Yes, but not in the past year
- ☐ Yes, during the past year

Scoring the Questionnaire

Scores for each question range from 0 to 4, with the first response for each question (e.g. "never") scoring 0, the second (e.g. "less than monthly") scoring 1, the third (e.g. "monthly") scoring 2, the fourth (e.g. "weekly") scoring 3, and the last response (e.g. "daily or almost daily") scoring 4. For questions 9 and 10, which only have three responses, the scoring is 0, 2 and 4 (from top to bottom).

A score of 8 or more is associated with harmful or hazardous drinking, a score of 13 or more in women, and 15 or more in men, is likely to indicate **alcohol** dependence.

Reference:

Adapted from: Saunders, J.B. et al. 1993. "Development of the **alcohol** use disorders identification test (**AUDIT**): WHO collaborative project on early detection of persons with harmful **alcohol** consumption" — II in *Addiction*, Vol. 88, pp. 791–803.

Violence at work

1. Introduction

Long ignored, denied, or considered to be a harsh reality which must be accepted as a part of life, it is only recently that violence at work has started to receive the attention it deserves as a serious safety and health hazard with high costs for victims and enterprise performance. Both employers and workers have an interest in reducing or eliminating violence at work. For employers, violence can mean extra costs due to high absenteeism, higher insurance premiums and compensation payments. It can also lead to low morale and a poor image for the organization, making it difficult to recruit and keep staff. Ultimately it can reduce productivity and competitiveness.

Key concepts of violence at work

1. The workplace can be a generator of violence.
2. Violence generated elsewhere could end up at the workplace.
3. All occupations appear to be affected.
4. The links between violence at work, in the family and the community are increasingly becoming evident.
5. Workplace violence can be very expensive.

For workers, violence can cause pain, distress and even disability or death. Physical attacks are obviously dangerous but psychological attacks in the form of persistent verbal abuse or threats can also damage workers' health through anxiety or stress, which in turn can lead to increased use of tobacco, the abuse of alcohol and drugs, other addictions or unhealthy behaviour. Workers often turn to one or more of these activities to find relief from the burden of stress and violence. Stress, addictions and unhealthy behaviour can also lead to violence. The cumulative effects of such practices can have a drastic effect on the physical and mental health of workers.

Trends Relating to Violence at Work

1. Extreme violence, such as workplace shootings, attracts attention from the public and the media.
2. The importance of repeated acts of psychological violence, such as continuous harassment, is increasingly being recognized.
3. Public authorities, workers and employers are increasingly aware of the need to control violence.
4. International attention is progressively extending to this area.
5. Not enough is known about violence at work in developing countries.

2. Understanding violence at work

Definition

Violence at work is not easy to pin down in a few words.

The *ILO Code of Practice on Workplace violence and measures to combat this phenomenon* defines work-related violence as follows:

"Any action, incident or behaviour that departs from reasonable conduct in which a person is assaulted, threatened, harmed or injured in the course of, or as a direct result of, their work."

- **Abuse** is used to indicate all behaviour which departs from reasonable conduct and involves the misuse of physical or psychological strength.
- **Assault** generally includes any attempt at physical injury or attack on a person including actual physical harm.
- **Threats** encompass the menace of death, or the announcement of an intention to harm a person or damage their property.

In real situations these types of behaviour often overlap, making any attempt to categorize different forms of violence very difficult.

GLOSSARY

SOLVE considers both physical and psychological violence when addressing violence in the workplace.

PHYSICAL VIOLENCE

- The use of physical force against another person or group that results in physical, sexual or psychological harm. It includes beating, kicking, slapping, stabbing, shooting, pushing, biting, and pinching among others.
- Assault/Attack: intentional behaviour that harms another person physically, including sexual assault (i.e. rape).

PSYCHOLOGICAL VIOLENCE (Emotional abuse)

- Intentional use of power, including the threat of physical force, against another person or group, that can result in harm to physical, mental, spiritual, moral or social states or development. Includes verbal abuse, bullying/mobbing, harassment, and threats.
- Abuse: behaviour that humiliates degrades or otherwise indicates a lack of respect for the dignity and worth of an individual.

- Bullying / Mobbing: repeated and offensive behaviour through vindictive, cruel, or malicious attempts to humiliate or undermine an individual or a group of workers.
- Harassment: any conduct towards somebody based on their age, disability, HIV status, domestic circumstances, sex, sexual orientation, gender reassignment, ethnic background, colour, language, religion, political opinion, trade union affiliation or other opinion or belief, national or social origin, association with a minority, property, birth or other status that is unreciprocated or unwanted and which affects the dignity of women and men at work.
- Sexual harassment: any unwanted, unreciprocated and unwelcome behaviour of a sexual nature that is offensive to the person involved, and causes that person to be threatened, humiliated or embarrassed.
- Racial harassment: any threatening conduct that is based on ethnic diversity, colour, language, national origin, religion, association with a minority, birth or other status that is unreciprocated or unwanted and which affects the dignity of women and men at work.
- Threat: statement of intention to use physical force or power (i.e. psychological force) resulting in fear of physical, sexual, psychological harm or other negative consequences in the targeted individuals or groups.

What forms does violence at work take?

The range of behaviour which may be included under the general heading of violence at work is very broad. But the borderline of what constitutes acceptable behaviour is often vague and cultural attitudes as to what amounts to violence are so diverse that in practice violence at work can be a very complex matter to identify. It may take the form of a wide variety of often overlapping behaviours, including non-physical and psychological violence.

Physical or psychological?

Not all violence is physical. In recent years, new evidence has emerged of the dangers of psychological violence. The new profile of violence at work gives equal emphasis to physical and psychological behaviour, and recognizes the significance of what may seem to be minor acts of violence. Violence may also consist of repeated actions which by themselves may appear to be relatively insignificant, but taken together can accumulate to make up serious forms of psychological violence such as sexual harassment, bullying or mobbing.

Workplace **bullying** is a form of workplace violence which is becoming more and more widely recognized. It happens when there is repeated offensive behaviour which undermines an individual or a group of workers in a vindictive, cruel, malicious, or humiliating way. This is often done through tactics such as making life difficult for those who have the potential to do the bully's job better, shouting at staff to get things done,

insisting that “the bully's way is the right way”, refusing to delegate because the bully feels no one can be trusted, and punishing others by constant criticism or removing their responsibilities for being too competent. Such persistently negative attacks on personal and professional performance are typically unpredictable, irrational and unfair and are usually not done openly, but out of sight of potential witnesses. Although it may start as a series of small incidents, it often escalates and becomes more intense.

Reports of another form of systematic collective violence have increased in recent years. This involves ganging-up on or **mobbing** an employee and subjecting them to psychological harassment, for example by means of continuous negative remarks or criticism, isolation, spreading gossip or ridiculing the person concerned. Although such practices might on the surface appear to be minor single actions, they can have a very serious effect. It has been estimated, for example, that about 10-15 per cent of suicides in Sweden each year have this type of background (Leymann, 1990).

The difference between bullying and mobbing is that bullying is done by one person, whereas mobbing is done by a group of people ganging up on one person. Bullying may also lead to mobbing if the bully is a person with a high status in the workplace. Others may join in mobbing out of fear of losing their jobs, or in order to be on good terms with the bully. In some places, such as Scandinavia, the terms bullying and mobbing are used interchangeably.

Although a single incident can be enough to cause harm, **sexual harassment** often consists of repeated, unwelcome, unreciprocated and imposed actions which may have a very severe effect on the victim. Because the perpetrators in workplaces are frequently more senior than the person they harass, victims may be too frightened to object or make a formal complaint. Sexual harassment may include inappropriate touching, remarks, looks, attitudes, jokes or the use of sexually-oriented language, allusions to a person’s private life, references to sexual orientation, innuendos with a sexual connotation, remarks about dress or figure, or the persistent leering at a person or a part of their body. Although sexual harassment is most commonly directed at women by men, men can also be victims of this type of workplace violence.

Women at special risk

Many studies show that women are at particular risk of violence, both in and outside the workplace. Why is it that women are at high risk of violent behaviour in the workplace? In the first place, women are concentrated in many of the high-risk occupations, working in contact with the public and in solitary settings, particularly as teachers, social workers, healthcare workers, as well as in banks and shops. Women also tend to work in low-paid and low status jobs where violence is more common, while men predominate in better-paid, higher status jobs and supervisory positions. Nevertheless, men tend to be at greater risk of physical assault, while women are particularly vulnerable to incidents of a sexual nature.

Many national surveys have found that between 40 per cent and 90 per cent of the women questioned have suffered some form of sexual harassment during the course of their working lives (Hunt et al., 2007). The big difference in the survey results is because of differing definitions of sexual violence. However, even the lower range results suggest that nearly half of women have been subject to sexual harassment in some form. Many governments, employers and workers realized the scope of sexual harassment as a workplace problem before becoming aware of the wider issue of violence at work.

A 2002 survey carried out in Italy by ISTAT showed that more women were sexually harassed at work than on public transport or in the street. As Table 1 below shows, 15.3 per cent of sexual violence (both actual and attempted) was carried out by somebody at work, with 11.8 per cent of violence taking place at work or nearby, while 12.1 per cent of sexual harassment happened at work.

Table 1: Sexual violence and harassment in the workplace (percentage values)

	Colleagues, employers, superiors		Workplace and surroundings	
Experienced:	**At least once in their lifetime**	**In the past three years**	**At least once in their lifetime**	**In the past three years**
Violence/attempted violence	15.3	8.8	11.8	9.9
Of which: Violence	4.4	3.9	1.6	3.9
Of which: Attempted violence	17.9	9.6	14.3	10.9
Physical harassment	10.4	11.6	12.1	15.1

Source: The Italian National Institute of Statistics (ISTAT), 2004.

Causes of violence at work

To decide how to prevent violence at work, it is important to understand where it comes from. Media images are often dominated by images of disgruntled workers, angry spouses, or unhappy, desperate, often psychiatrically-impaired people venting their anger on colleagues. These images affect public and official perceptions of violence and the policies which are adopted to address it.

Workplace violence may be less dramatic, but its impact is just as strong. It is essential to recognize and understand the various and complex factors that contribute to violence at work.

Violence and aggression are deeply ingrained in the behavioural repertoire of humans. It seems originally to have served as an adaptive mechanism necessary for the survival of the species. However, it does not occur randomly across the human species, nor does it occur evenly throughout any given society. Bearing in mind that the risk of violence depends on the interaction of a range of factors, the following have been identified as the most significant:

- child development and the influence of the family: it is within the family that aggressive behaviour is first learnt and/or non-violent values instilled in children;
- cultural factors: the shared beliefs within a culture or sub-culture help define the limits of acceptable or tolerable behaviour. However, factors which can to lead to a higher level of violence in a society include widespread poverty and inequality. In societies where some groups are particularly alienated, where there often is discrimination and where attitudes to gender inequality are deeply embedded, the risk of violence is high;
- personality factors: including past aggressive behaviour, lack of empathy for the feelings of others, impulsiveness (or the inability to defer gratification) or, in contrast, unusually strong internal controls (over-controlled personalities);
- substance abuse: while there is a close association between substance abuse and violence, the relationship is complex involving many factors including the inability to control one's impulses, coexisting psychological, social and cultural factors and, in the case of illicit drugs, the violence associated with their trafficking and distribution, as well as the pharmacological effects of the drugs or alcohol consumed;
- biological factors: although violent behaviour does not appear to be an inherited characteristic, some conditions (such as autonomic nervous system dysfunction) may lead to psychopathic behaviour, hormones (particularly testosterone) may also play a part in violent behaviour – which is why most violent behaviour has been associated with males aged between 15 and 30;
- mental illness: some forms of mental illness, notably paranoid schizophrenia, may occasionally result in violent acts, although the prediction of violence in the mentally ill is regarded as being extremely difficult;
- media influence: research indicates that the relationship is bi-directional - the viewing of violence on television, on video or at the cinema may give rise to aggression, while aggression may engender violence viewing;
- peers and schooling: the company of delinquent or aggressive peers may influence individuals to become aggressive themselves.

As this list shows, long-term change to address the problem of violence at work is a project for all of society. At the same time, the workplace, as a part of that society, has its contribution to make in reducing the incidence of violence. Communities and workplaces influence each other, making improvements in one can be a way of contributing to improvements in another.

The following diagram should help in determining the complex interactions which may give rise to violence at work.

Situations at risk

Each violent situation is unique and thus requires its own analysis. That is why the prediction of specific acts of violence is extremely difficult. Nonetheless, there are a number of working situations in which violence seems to occur more frequently and where special consideration is needed.

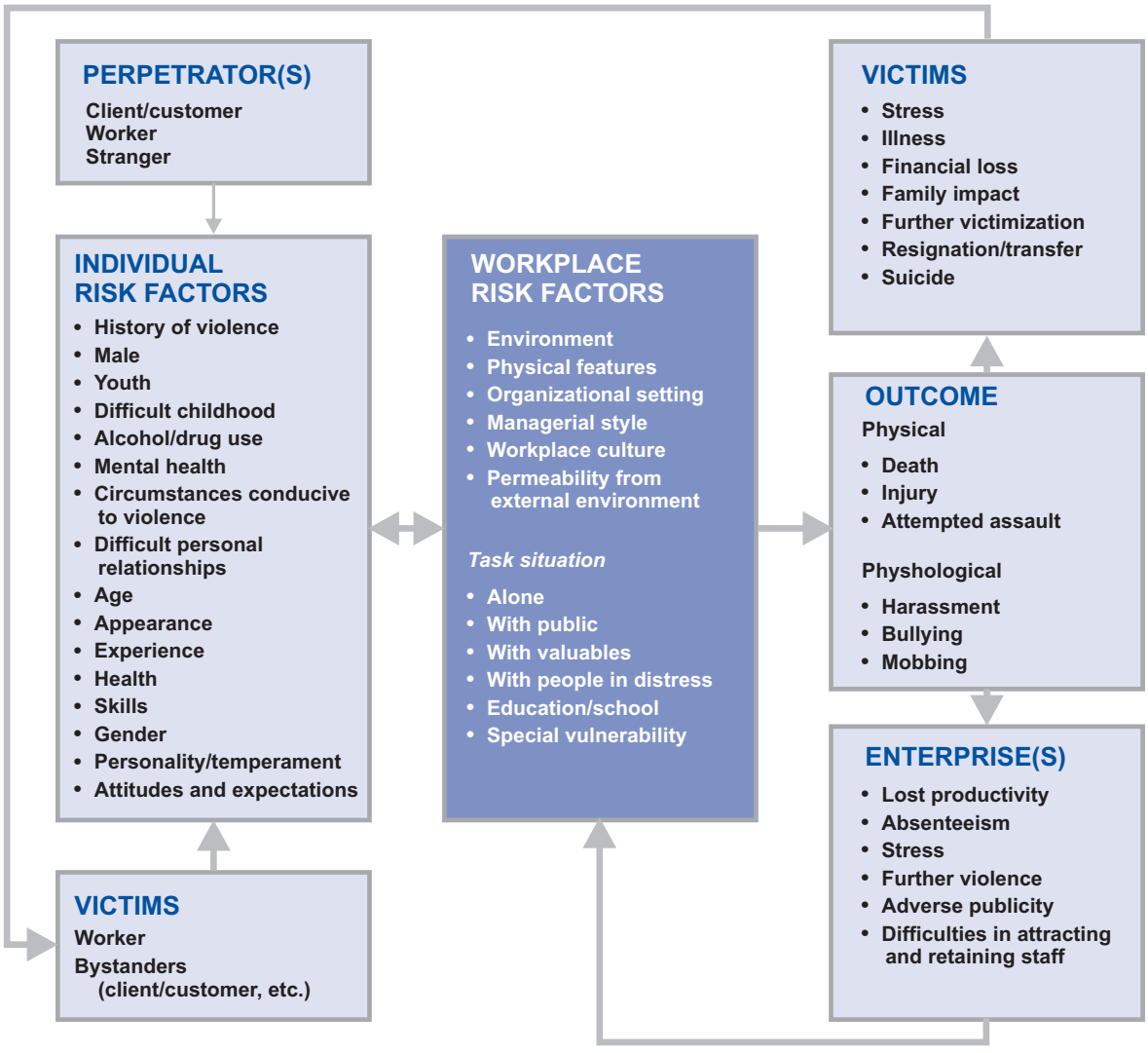


Figure 5.1: The causes of violence at work

Working alone

Working alone means there are no witnesses to any potential violence which in itself increases the risk of violence. High risk solitary work situations include work in small shops or kiosks, cleaners and maintenance staff working after hours and taxi drivers - particularly at night and when customers are intoxicated. According to figures published in 2001 (Chappell, 2006), taxi drivers in the United States are 30 times more likely to suffer a fatal assault than that of the average worker in the United States.In South Africa, an average of 60 per cent of petrol retailing sites (gas stations) surveyed in 2002, had experienced violent crime in the previous 36 months (Hadland, 2002).

More and more people are now working alone in a variety of sectors, as a result of new types of work arrangements such as sub-contracting, outsourcing, tele-working, networking and self-employment.

Working in contact with the public

Working with the public adds an element of unpredictability as workers can be exposed to individuals with a history of violence, mental illness or those who are intoxicated. Violence by members of the public can be triggered by poor quality of service or a perception of it, dismissive or uncaring conduct by a worker or a by customer's general dissatisfaction with an enterprise, with no direct link to a particular worker or problem at the time the violence is committed.

Working with valuables and cash handling

Whenever valuables are, or seem to be, within "easy reach", there is a risk that crime, particularly violent crime, may be committed. While workers in many sectors face this problem, workers in shops, post offices and financial institutions, especially those who handle cash, are at higher risk.

Working with people in distress

Violence is so common among workers in contact with people in distress that it is often considered an inevitable hazard of the job. Frustration and anger arising out of illness and pain, problems related to advancing age, psychiatric disorders, as well as alcohol and substance abuse can affect behaviour and make people verbally or physically violent. The risk of violence is increased by:

- poverty and marginalization in the community in which the aggressor lives;
- poor organization or equipment where care activities are performed;
- insufficient training and weak interpersonal skills of staff providing services;
- a general climate of stress and insecurity in the workplace.

Working in an environment increasingly "open" to violence

Working environments which traditionally have been quite immune from violence are becoming progressively affected. This worrying trend seems to reflect a general growth in community violence and unrest, and the collapse of some societal values and violence in schools is part of this trend. Teachers have been exposed to the risk of violence for a long time; however, the level of risk to which they are now exposed to in a number of countries is becoming disturbing.

Working in conditions of special vulnerability

This includes the following situations:

- increasing numbers of workers becoming involved in precarious and temporary jobs;
- immigrant workers and people of different ethnic origin;
- workers in export processing enterprises operating in free trade zones;
- workers in rural areas and miners, particularly in developing countries;
- children, working by the millions, both in industrialized and developing countries.

Where does violence concentrate?

Workplace violence - physical and psychological - has become a global issue, crossing borders, work settings and occupational groups. No single occupation is immune from violence at work, though workplace violence tends to be clustered in certain occupations. The table on the next page indicates the occupations most at risk in the United Kingdom, according to the British Crime Survey interviews conducted in 2003 – 2005.

Risk of violence at work, by occupation, 2003-04 and 2004-05 BCS interviews				
Percentage victims once or more	**Assaults**	**Threats**	**All violence at work**	**Unweighted N**
Protective service occupations	8.8	1.2	9.7	460
Managers and proprietors in agriculture and services	2.6	2.3	4.6	1,351
Transport and mobile machine drivers and operatives	1.3	1.6	2.7	1,606
Leisure and other personal service occupations	1.0	1.7	2.5	835
Health and social welfare associate professionals	1.1	1.4	2.5	1,683
Health professionals	0.4	2.3	2.3	345
Business and public service professionals	0.4	1.3	1.7	1,044
Sales occupations	0.8	0.9	1.6	2,572
Corporate managers	0.8	0.9	1.4	4,730
Elementary administration and service occupations	0.8	0.6	1.4	3,269
Teaching and research professionals	0.8	0.6	1.3	2,045
Customer service occupations	0.3	0.9	1.1	581
Caring personal service occupants	0.5*	0.4	0.8	2,509
Business and public service associate professionals	0.2	0.5	0.7	2,103
Skilled metal and electrical trades	0.2	0.3	0.5	1,846
Textiles, printing and other skilled trades	0.5	0.1	0.5	838
Administrative occupations	0.1	0.4*	0.5*	3,943
Science and technology associate professionals	-	0.5	0.5	699
Elementary trades, plant and storage-related occupations	0.2	0.2	0.4	1,691
Secretarial and related occupations	0.2	0.4	0.4	1,234
Culture, media and sports occupations	0.1	0.3	0.4	798
Science and technology professionals	0.1	0.4	0.4	1,231

Risk of violence at work, by occupation, 2003-04 and 2004-05 BCS interviews

Percentage victims once or more	Assaults	Threats	All violence at work	Unweighted N
Skilled construction and building trades	0.2	0.1	0.3	1,636
Process, plant and machine operatives	.1	0.3	0.3	1,543
Skilled agricultural trades	-	-	-	427
ALL	0.6*	0.7*	1.3*	41,19

* denotes a significant drop from 2001/02 and 2002/03 at p0.05
1. Source 2003/04 and 2004/05 BCS.
2. Based on adults of working age, in employment.
3. Full details of the SOC occupations within each of the groups are given in Appendix B in Online Report 04/04.
4. < 0.1 denotes a value under 0.05. - indicates there were no cases in the sample

Source: Upson, 2004.

What increases the risks of violence?

- **STATUS**

Precarious employment is an aggravating factor.

- **GENDER**

Especially in the case of sexual harassment, female workers are more exposed.

- **STRESS**

The pressure within an organization to perform is rapidly increasing and can be seen as a factor exacerbating tension in the workplace.

3. Impact

Violence at work is a widespread problem that significant numbers of workers have to face. The following facts and figures illustrate the size of the problem in different regions of the world and in different occupations.

- In the European Union, according to figures from 2005 (Durhart, 2001), nine million individuals, or six per cent of all workers, were subject to physical violence at work. Four per cent of workers (six million individuals) suffered physical violence from people from outside their workplace. Another five per cent of workers in the European Union were subjected to bullying and harassment at work.
- Psychological violence is becoming increasingly recognized as a significant and wide-spread workplace phenomenon with a serious impact on work. In a study carried out by the US National Institute for Occupational Safety and Health (NIOSH) in 2004, there was bullying in 24.5 per cent of the companies surveyed in the past year (NIOSH, 2004).
- The health-care sector is particularly vulnerable to violence. An international study, carried out by the ILO and WHO and two international trade unions in 2005, found that more than half of the health-care workers surveyed in eight different countries spread across six continents had experienced at least one incident of physical or psychological violence in the past twelve months (ILO; ICN; WHO; PSI, 2002). The results for different types of violence in the different countries are summarized in the table below:

Country	Physical attack	Verbal abuse	Bullying/mobbing
Australia	12.0	67.0	10.5
Brazil	6.4	39.5	15.2
Bulgaria	7.5	32.2	30.9
Lebanon	5.8	40.9	22.1
Portugal	3.0	51.0 [a] / 16.5 [b]	23.1 [a] / 16.5 [b]
South Africa (private sector)	9.0	52.0	20.6
South Africa	17.0	60.1	-
Thailand	10.5	47.7	10.7

[a] In health-care complex; [b] In hospital

Source: Chappell; Di Martino, 2006.

- Very little data on workplace violence is available from developing countries, particularly concerning psychological violence. The phenomenon is significant, but information is generally not available. For example, the information from the health-care sector given above shows that there is more bullying and mobbing in Brazil than in Australia, but there is more verbal abuse in Australia than in Brazil (Chappell, Di Martino, 2006).

Who is affected?

Violence at work not only has an immediate effect on the victim, but also affects other people (directly or indirectly), as well as the enterprise and the community. The impact and cost of violence at work need to be considered at a number of different levels.

- At the **individual** level, the suffering and humiliation resulting from violence often leads to a lack of motivation, loss of confidence, reduced self-esteem, depression, anger, anxiety and irritability. In the same way as with stress, if the causes of violence are not eliminated, or the effects controlled, the symptoms can develop into physical illness, psychological disorders, tobacco, alcohol and drug abuse and other addictions. They may affect other areas of life such as eating and sleeping habits. They may even culminate in occupational accidents, long-term ill-health and an inability to work, or even suicide.
- At the **workplace** level, violence causes immediate and often long-term disruption of interpersonal relations, the organization of work and the overall working environment. Employers bear the direct cost of lost work, increased security measures, absenteeism, turnover, accidents, illness, disability and death. They face difficulties in recruiting and retaining staff. They are also likely to bear the indirect costs of reduced efficiency and productivity, the deterioration of product quality, and a reduction in the volume of business. Employers are paying increasing attention to the negative impact of violence on "intangible factors", such as company image, motivation and commitment, loyalty to the enterprise, creativity, working climate, openness to innovation, knowledge-building and learning.
- At the **community** level, the costs of violence include health care and long-term rehabilitation costs for the victims, unemployment benefits and retraining costs for victims who lose their jobs as a result of such violence and disability and invalidity costs where the working capacities of the victims are impaired by violence at work.

What does workplace violence cost? Some examples:[1]

Direct costs: such as workplace injuries, illnesses, absenteeism and turnover.

- Victims of bullying had 26 per cent more sick leave than other workers, according to a study in hospitals in Finland.

Indirect costs: such as reduced job satisfaction, morale, and productivity.

- The more Swedish nurses were exposed to violence at work, the less job satisfaction they experienced.

Overall costs:

- In an Australian study, each case of bullying cost the employer at least AUD$16,977.
- The costs of bullying have been estimated to be close to GPB 2 billion annually in the United Kingdom.
- Annual total cost of workplace homicides in the USA was calculated to be US$970 million.

Altogether it has been estimated by a number of reliable studies that stress and violence account for approximately 30 per cent of the overall costs of ill-health and accidents. Based on the above figures, it has been suggested that stress and violence may account for approximately 0.5 – 3.5 per cent of GDP per year (ILO, 2001).

1 Box: Finland: Kivimaki, 2000; Sweden: Arnetz, 1996; Australia: Sheehan, 2001; UK: Health and Safety Executive, 2006; USA: Biddle, 2002.

4. Managing violence at work

How can violence be tackled?

There is growing recognition that:

- it is possible to prevent violence at work;
- violence is not just a personal problem;
- it is detrimental to the workplace itself;
- work organization and the working environment can be part of the cause of the problem;
- work organization and the working environment can be changed to prevent violence;
- combating violence is an integral part of the management culture of a sound enterprise;
- violence at work is linked through a cycle of negative synergies to other psychosocial issues.

Governments, employers and workers need to:

- tackle the causes, rather than the effects of violence;
- recognize that there cannot be a single "one size fits all" response, but solutions must be tailored to each workplace;
- act preventively, before the damage is done, including improving the interpersonal skills of management and workers alike;
- act systematically at all levels of intervention;
- involve all those concerned, particularly workers and their representatives to identify the problem and implement solutions;
- have an integrated OSH policy and good strategies to manage all related psychosocial hazards.

Violence at work can be managed and prevented in different ways. Prevention of violence is better than action after the event. It can be undertaken using a variety of measures.

Administrative measures

This can take the form of a clear statement of intent from the Chief Executive Officer (CEO) or Managing Director that the workplace will be violence free. In some cases this means a zero tolerance policy, stating that any form of violence is not acceptable and will result in severe sanctions. Specific measures should be taken to prevent violence, including a reporting system, access to support and the designation of an ombudsperson (mediator).

Work organization and job design

Work organization can be the cause of workplace violence, but fortunately this is a factor which can be changed. Indeed, it is more effective and less costly to improve work organization in order to **prevent** violence than to introduce extensive measures to **react** to violence after the event. Some aspects of job design and work organization related to working time that can prevent violence are listed in the following recommendation for violence prevention in the health sector, issued by the ILO and WHO, and two international nursing unions.

Job design

Job design is an essential factor regarding violence at the workplace.
An efficient job design should ensure that:

- tasks performed are identifiable as whole units of a job rather than fragments;
- jobs make a significant contribution to the total operation of the organization which can be understood by the worker;
- jobs provide an appropriate degree of autonomy;
- jobs are not excessively repetitive and monotonous;
- sufficient feedback on task performance and opportunities for the development of staff skills are provided;
- jobs are enriched with a wider variety of tasks;
- job planning is improved;
- the pace of work is not excessive;
- access to support workers or team members is facilitated;
- time is available for dialogue, sharing information and problem solving.

Working time

To prevent or diffuse workplace violence, working-time management should avoid excessive work pressure by:

- arranging, as far as possible, work time in consultation with the workers concerned;
- avoiding excessively long hours of work;
- avoiding excessive recourse to overtime;
- providing adequate rest periods;
- creating autonomous or semi-autonomous teams dealing with their own working-time arrangements;
- keep working-time schedules regular and predictable;
- keep, as far as possible, consecutive night shifts to a minimum.

Source: ILO; ICN; WHO; PSI, 2002.

Pre-employment testing and screening

Traditional selection tools for choosing new workers to be hired include written tests, interviews, and performance tests. Some new tools have recently become popular, such as psychological profiling or alcohol and drug testing, but they need to be used with caution for ethical reasons and because they do not necessarily achieve the results they appear to promise. If used carefully they can be useful for positive identification of individuals who are more suited to certain jobs. It may be possible to recognize someone who is less likely to get stressed, frustrated or angry because of stressors related to the job and, as a result, is less likely to be violent at work.

Training

Training on the prevention of workplace violence may cover a number of different areas:

- identifying potentially violent situations and people;
- communication skills for defusing potentially violent situations;
- improving professional competence to prevent clients and co-workers becoming frustrated at a job not done well;
- specialist training to prepare part of the workforce to take on complicated work situations, again to ensure quality delivery;
- ensuring that emergency plans, procedures and equipment are in place in order to respond to a major incident and will be correctly used;
- recognizing the importance of the links between psychosocial problems.

Information and communication

Silence can be the worst enemy: in the absence of correct information, uncertainty increases, which can lead to fear and unreasonable reactions. People can also make false assumptions which can escalate the situation. Information covering the following areas needs to be communicated to all the workforce:

a) information about policy, so that all concerned know what to expect;

b) where appropriate, provide information to clients, for example about waiting times, or the reasons for a shortfall in service;

c) information on sexual harassment, bullying and mobbing in order to remove the taboo of silence and provide assistance;

d) information about changes in the organization;

e) provide real opportunities for workers to communicate with management and be consulted;

f) where the potential for violence is related to working alone, provide relevant information and communication systems about where staff are located and when they are expected back; the selection of those who have to work alone, and a rotation system that avoids isolation of workers.

Physical layout and working environment

The risk of violence at work can be significantly reduced by good design of the physical environment. The issues of access and of comfort can be key areas for improvement.

Controlling access can be a way of distancing potentially aggressive clients from workers. Measures like control of entrances, protective barriers and security screens can be considered. Improving client comfort, particularly when waiting times may be long, can also be a good preventative measure. Good seating, colour, lighting, toilet facilities, comfortable temperature and noise levels can all make a difference.

These suggestions apply to violence between co-workers too, as they generally contribute to reducing tension at work.

Dealing with violent incidents

While prevention is by far the best way of addressing violence at work, it is important for workers to be prepared and procedures to be established in order to defuse difficult situations and avoid violent confrontations.

Diffusing aggression

Even in the most difficult situations, there is often some room for maneuver before violence is initiated. Many guidelines have been developed which recommend ways of minimizing the risk of a violent incident taking place. It can be useful for workers who

are functioning as peer counselors to take special training in diffusing aggressive situations. In this respect, personal attitudes and behaviour are extremely important.

A person who is on the brink of physical aggression has a number of choices: to attack, retreat or compromise. It is necessary to guide them towards the latter two by, for example, staying calm, speaking gently, slowly, clearly, and by trying to talk things through in a reasonable manner. Avoid aggressive body language, such as crossed arms, hands on hips, wagging a finger or raising an arm - as these actions challenge and confront.

Immediate action after violent incidents

Depending on the nature and seriousness of the violence, police intervention may be required, especially in the case of major incidents. In any case, the importance of immediately recording and reporting workplace violence is emphasized by all experts. The recording and reporting system should cover all incidents, including both minor and potential incidents where no actual harm has been done. Seemingly trivial events should not be neglected, as they may be relevant later, for example in detecting repeated patterns of behaviour or an escalation in aggression. Workers should know how and where to report violent acts or threats of violence, without fear of criticism, or the aggressor turning on them.

The victims of violence can experience a wide range of disturbing reactions and may need psychological help to deal with the distressing and often disabling after-effects of a violent incident. Debriefing is recommended in all but the most trivial cases, usually in the form of meetings, preferably run by staff, and with all those involved in the incident if possible. It is also generally recommended that trauma and crisis counselling be incorporated into the post-incident response, either through qualified staff or outside specialists. Especially in the case of major incidents of violence, some victims may need long-term support, which can include extended professional counselling, legal assistance with compensation procedures, rehabilitation and help in employment reinsertion.

Monitoring and evaluation

Finally, it is necessary to periodically review and check the effectiveness of measures which are taken to prevent and deal with violence at work. This should take the form of monitoring the results of the changes that have been introduced, using a system through which workers can provide regular feedback. In this way the impact of the changes can be evaluated and any remaining problems or any change in the nature of the problems can be detected. Monitoring and evaluation is a key component of the cyclical management system recommended in the ILO Guidelines on occupational safety and health management systems (ILO, 2001.)

5. Good practices

As workplace violence is increasingly recognized as a problem to be tackled, there are more and more examples of good practice to draw on. The following case studies show examples of good practice. The first example shows how it is important to set the stage with clear commitments at policy level from senior management in order to reduce violence at work. Against this background a detailed strategy can be put into place which will have much higher chances of success because it is understood that the organization takes the matter seriously.

Policy framework and commitment from the top

The policy document below is taken from a university in North America. It links the aim of violence reduction with both the main purpose of the organization (excellence in teaching and learning) and its health and safety objectives. It specifies a definition of violence to be used, and what the consequences will be for anybody not respecting the said policy. It also underlines the responsibility of all members of staff to report violence when it occurs.

Example of a University Policy

This University is committed to creating and maintaining a campus environment for all members of the university community that is free from violence. Civility, understanding, and mutual respect toward all members of the university community are intrinsic to excellence in teaching and learning, to safety in the workplace, and to the maintenance of a culture and environment that serves the needs of all campus constituents.

This University will not tolerate violence and threats of violence on campus or at campus-sponsored events by members of the university community against other persons or property.

For the purposes of this policy, violence and threats of violence include, but are not limited to:

- any act that is a physically assault; or
- any threat, behaviour or action which is interpreted by a reasonable person to carry the potential:
  - to harm or endanger the safety of others,
  - to result in an act of aggression; or
  - to destroy or damage property.

Any member of the university community who commits a violent act or threatens to commit a violent act toward other persons or property on campus or at campus-sponsored events shall be subject to disciplinary action, according to established procedures, up to and including dismissal from employment or expulsion from the university, exclusive of any civil and/or criminal penalties that may be pursued, as appropriate.

It is the responsibility of every administrator, faculty member, staff member and student to take any threat or violent act seriously, and to report acts of violence or threats of violence to the appropriate authorities.

Source: Sonoma State University, 1998.

Preventing discrimination and harassment

A multinational manufacturing company located in Asia and Europe successfully implemented a programme on prevention of violence and harassment within the company. It focused particularly on respect for cultural diversity and prevention of discrimination and harassment in a company with workers from 22 different nationalities. Elements of the programme included:

- a code of conduct and zero tolerance statement (developed with workers input);
- workshops, which were:
  - held regularly every few months,
  - obligatory for all staff,
  - organized during working hours;
- meetings every two weeks to air feelings and discuss any problems;
- communication at recruitment, and then via blackboards and an internal newsletter;
- leadership and training for supervisors to deal with violence and harassment;
- grievance procedures, including mediation, official investigation, sanctions and victim support. Victims can either report to supervisors, an external workers' representative or to the internal social worker.

Prevention through working environment design

The social services department of Amsterdam in the Netherlands successfully changed the design of their working environment to prevent violence at work. It first made the environment pleasant and accessible to both staff and members of the public alike, through a number of measures:

- careful location of the offices for easy access;
- sufficient and convenient parking spaces;
- signs within the building to easily find where to go;
- clear numbering system for waiting times;
- a pleasant waiting area which included: coffee machine, telephone, children's play area, television, reading materials, calming colour scheme.

In the space where staff and clients meet, counters were made wide and high enough to prevent physical contact between the clients and the staff, and noise-absorbing panels were placed between clients to ensure confidentiality. Attention was paid to creating design elements such as second exits for staff to leave quickly if needed, which played a role when violence was threatened, and which contributed to a hightened feeling of security for staff members.

Some security measures were also installed, such as alarms at counters and closed-circuit television monitoring systems. These measures were publicized, to increase the deterrent effect.

Results of the scheme included:

- reduced work stress;
- improved working environment;
- improved service delivery;
- change in working culture through open discussions about violence;
- cost-benefits savings: € 275,000 direct costs for the new design measures, compared to € 900,000 estimated costs for indirect violence costs (such as sick leave) per year.

Responding to violence

A balanced approach should be taken to tackle violence in the workplace. Staff should be consulted regarding where or when at work they feel most vulnerable to violence and management should offer appropriate support when workers find themselves in those situations. Appropriate equipment, training, guidelines and procedures should be in place to allow staff to deal with conflict situations, a good example of which is the following case.

A hospital in a small town in the Netherlands was experiencing levels of violence that resulted in staff feeling increasingly insecure. Managers, workers, the executive board, representatives of the police and the Public Prosecutor's Office collaborated to develop a plan to reduce violence in the hospital. A survey identified where and when most incidents were taking place. All staff was provided with an alarm to call security staff, and instructions on how and when to use it.

Type of violence	Action	Consequences
Verbal agression	First try to calm the aggressor, and only use the personal alarm if this does not work.	Incident is recorded.
Serious threats	Use personal alarm immediately and security staff intervene.	Incident is recorded; aggressor gets a "yellow card"; incident is reported to the police.
Physical violence	Use personal alarm immediately and security staff intervene.	Incident is recorded; aggressor gets a "red card"; incident is reported to the police; aggressor is brought before the assistant public prosecutor and may be banned from entering the hospital.

Since the scheme has been introduced, physical violence at the hospital has fallen by 30 per cent and verbal violence by 27 per cent. The scheme was deemed so successful that it is now being implemented at 24 other hospitals in the country (Chappell; Di Martino, 2006).

6. Interrelationships

Violence at work is often linked with other psychosocial problems. It is closely linked with stress, and particularly with economic stress, but also with substance abuse. Links can also be found with lack of sleep and, to an extent, with smoking and HIV and AIDS. Physical exercise can be a means of preventing violence.

Stress and violence at work

Stress can be both a consequence of violence and a cause of violence. Almost 40 per cent of workers reported experiences of bullying when defined broadly in a study on a British National Health Service Community Trust (Kivimaki; Elovainio, 2000). Other typical stress-related consequences of violence are a lack of self-confidence, difficulty concentrating and fear. Mental health can also be affected, resulting in illnesses like anxiety and depression.

Some work-related violence is caused by stress. A study in the USA found that the following four stressors were particularly likely to result in physical assaults on co-workers:

- limited job control;
- high levels of responsibility for people;
- limited alternatives in finding a new job;
- skill under-utilization.

Economic stress, for example fear of losing one's job or actual termination, is very often linked to one of the most dramatic forms of work-related violence: mass-shootings at work, often ending with the suicide of the aggressor.

Substance abuse and violence at work

Drug use, and in particular alcohol, is closely connected with violence, although the relationship between the two is not a straightforward one. As well as the pharmacological properties of alcohol, other factors play an important role in determining whether a person becomes violent, such as:

- personality and temperament;
- expectations of the effects of alcohol;
- social setting where the events take place.

However, the reasons underlying drug use and violent behaviour may be the same: the inability to control one's impulses. Studies show that in actual instances of workplace violence, alcohol and drugs often play a role.

Violence at work and other psychosocial hazards

- As smoking becomes less and less acceptable in some cultures, there can be tensions between smokers and non-smokers which may lead to psychological violence.
- Knowing that a co-worker is HIV-positive can provoke a negative reaction from an unknowledgeable co-worker.
- Lack of sleep is well-known to increase irritability and therefore the potential for unreasonable and possibly violent actions at work.

Physical activity for health, such as exercise, can have a positive impact on the incidence of violence. It can be used as a means of venting aggression and reducing tension, thus removing the potential for violence.

7. Policy integration

The elements of an integrated safety and health policy addressing psychosocial issues and health promotion which particularly apply to violence are the following:

Work organization

The enterprise needs to make a commitment to organizing work in such a way that it does not encourage violence. This means ensuring that stress levels do not get out of hand, by matching demand and control to the job and worker. The physical organization of the working space can also help to reduce the potential for violence.

Information

Ensuring that there is clarity about the policy and strategies for managing violence means that all concerned know what to expect if they adhere to the policy or if they do not. Clear and sufficiently detailed information about all areas of work, including information for clients where appropriate, can also be a preventive approach to violence at work.

Training and education

Sufficient training and education is key to equipping workers and managers with the skills they need to prevent violence. This may include recognizing potentially dangerous situations, but also training to do the job better and prevent aggression by dissatisfied customers and co-workers.

Risk assessment

Violence can be a seen as a risk resulting from putting certain workers in certain positions. With careful and ethical use of screening tools, it can be possible to assess that risk at recruitment and put the right worker in the right job.

Worker involvement and consultation

It is important to involve all parties concerned (including workers and managers) in the development of policy and prevention strategies on violence to ensure that all needs are being recognized and met.

Assistance and treatment

Should a violent incident take place, the policy should foresee what assistance and treatment will be made available to victims, bystanders and possibly to perpetrators, and to ensure that all can recover to the best of their ability from the negative effects of violence. It is important to remember that perpetrators may have been or can become victims themselves and that they may require help too.

Confidentiality

Any recording system for keeping track of violent and potentially violent incidents needs to be kept confidential to avoid the spread of inappropriate information and unfounded gossip. Any medical information recorded in the process of dealing with workplace violence must remain absolutely confidential.

Ethics

A culture of openness and transparency should be enshrined in the enterprise policy at all levels, so that workers feel they have been justly treated. A perception of injustice is one of the most common precursors of violence at work.

Continuous improvement

All enterprises' systems need to be monitored and evaluated to ensure that they are achieving the expected results and that they continue to do so as situations change.

For a more in-depth review of the range of measures which can be taken to prevent and/or deal with violence at work, see the ILO publication:

Violence at Work by D. Chappell, V. Di Martino (eds.): 2006. (Geneva).

http://www.who.int/violence_injury_prevention/injury/en/WVsynthesisreport.pdf

Bibliography

- Arnetz J.; Arnetz B.; Petterson, I. 1996. "Violence in the nursing profession: Occupational and lifestyle risk factors in Swedish nurses" in *Work and Stress*, Vol. 10, No. 2, pp.19–127.

- Biddle, E.; Hartley, D. 2002. "The cost of workplace homicides in the USA 1990–1997" in *Injury Prevention and Control, Sixth World Conference* (Montréal, Les Presses de l'Université de Montréal), pp. 421–422.

- Chappell, D.; Di Martino, V. 2006. (eds.): Violence at Work (Geneva, ILO).

- Duhart, D. 2001. "Violence in the workplace 1993–1999" *National Crime Victimization Survey*. (US Department of Justice, Bureau of Justice Statistics Special Report, NCJ 190076).

- European Agency for Safety and Health at Work. 2002. *Facts: Bullying at work. No. 23,* Bilbao. From *Violence at work* by Di Martino

- Greenberg, L.; Barling, J. 1999. "Predicting employee aggression against coworkers, subordinates and supervisors: the roles of person behaviours and perceived workplace issues" in *Journal of Organizational Behaviour*, Vol. 20, No. 6 (John Wiley & Sons), pp. 897–913.

- Health and Safety Executive. 2006. *Bullying, bullying its way into the Workplace* Available at: http://www.hse.gov.uk/press/2006/e06110.htm

- Hadland, A. 2002. "In terror and in silence, an investigation into crime and safety at petrol stations" in *Petrol Station 5 Safety Project* (Cape Town, Social Cohesion and Integration Research Programme, HSRC Press).

- Hunt, C. et al. 2007. *Sexual Harassment in the Workplace: a Literature review* (Equal Opportunities Commission. University of Manchester).
  Available at:
  http://www.mbs.ac.uk/research/equalitydiversity/documents/WPS59Sexualharassment.pdf

- Hurrell, J.; Worthington, K.A.; Driscoll, R.J. 1996. "Job stress, gender and workplace violence: Analysis of assault experience of state employees", in G. VandenBos and E. Bulatao (eds.): *Violence on the job: Identifying risks and developing solutions* (Washington, D.C., American Psychological Association).

- International Labour Office. 2001. *Guidelines on occupational safety and health management systems ILO–OSH 2001* (Geneva).

–. 2001. *The cost of violence and stress at work and the benefits of a violence - and stress-free working environment* (Manchester, UMIST).
Available at:
http://www.oit.org/safework/info/publications/lang—en/docName—WCMS_118190/index.htm

International Labour Office (ILO); International Council of Nurses (ICN); World Health Organization (WHO); Public Service International (PSI). 2002. *Framework guidelines for addressing workplace violence in the health sector* (Geneva, ILO/ICN/WHO/PSI Joint Programme on Workplace Violence in the Health Sector).

Italian Institute of Statistics (ISTAT). 2004. *Molestie e violenze sessuali* [Molestation and sexual violence]
Available at:
http://www.eurofound.europa.eu/ewco/2005/03/IT0503NU03.htm

Kivimaki, K.; Elovainio, M. 2000. "Workplace bullying and sickness absence in hospital staff" in *Occupational and Environmental Medicine* Vol. 57, No. 10 (London, BMJ Publications), pp. 656–660.

Leymann, H. 1990. "Mobbing and psychological terror at workplaces" in H. Leymann (ed.): *Violence and victims Vol. 5.* (New York, Springer Publishing Company).

McCarthy, P.; Mayhew, C. 2004. *Safeguarding the organisation against violence and bullying. An international perspective* (Basingstoke, Palgrave–MacMillan).

National Institute for Occupational Safety and Health (NIOSH). 2004. *NIOSH Update*: "Most workplace bullying is worker to worker, early findings from NIOSH study suggest" (Atlanta, 28 July).
Available at:
http://www.cdc.gov/niosh/updates/upd-07-28-04.html

Parent-Thirion A.; et al. 2007. *Fourth European Working Conditions Survey* (Dublin, European Foundation for the Improvement of Living and Working Conditions)
Available at:
http://www.eurofound.europa.eu/pubdocs/2006/98/en/2/ef0698en.pdf

Sheehan, M. et al. 2001. *Model for assessing the impacts and costs of workplace violence*, Paper presented at The Standing Conference on Organizational Symbolism, Trinity College Dublin.

Sonoma State University. 1998. *Policy: Violence free campus* (Sonoma, California).
Available at: http://sonoma.edu/UAffairs/policies/violence.htm

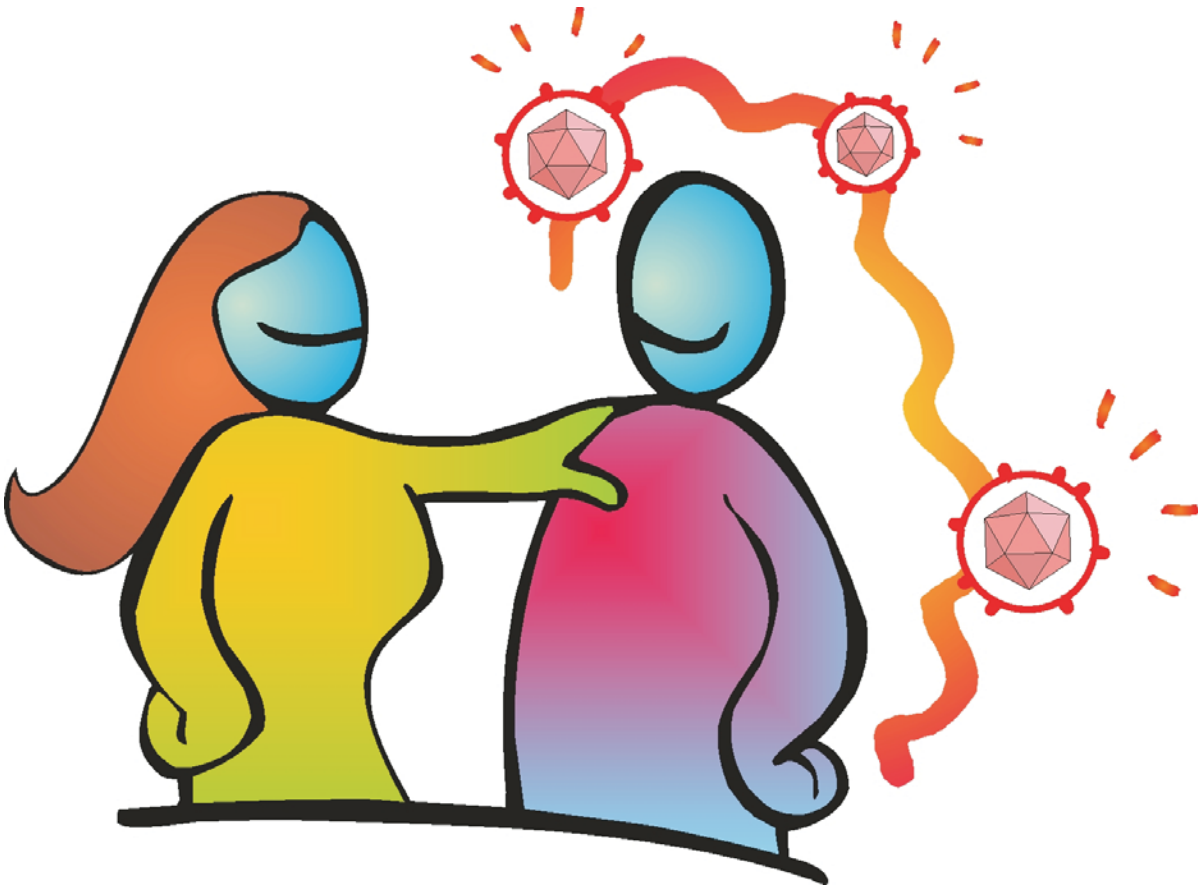
Talli, R. 2003. *Growing fears for safety of people working alone in the service sector* (Helsingin Sanomat).
Available at: http://www2.hs.fi/english/archive/news.asp?id=20030805IE16

Upson, A. 2004. *Violence at Work. Findings from the 2002/2003 British Crime Survey* (London, Home Office Online Report 04/04).
Available at: http://www.homeoffice.gov.uk/rds/pdfs2/rdsolr0404.pdf
Updated tables to 2005 at:
http://www.homeoffice.gov.uk/rds/pdfs05/rdsolr0404supp.pdf

Vartia, M. 2001. "Consequences of workplace bullying with respect to the well-being of its targets and the observers of bullying" in *Scandinavian Journal of Work and Environmental Health*, Vol. 27, No. 1 (Finnish Institute of Occupational Health), pp. 63–69.

Wynne, R. et al. 1997. *Guidance on the Prevention of violence at work* (Luxembourg, European Commission).

HIV and AIDS at work



1. Introduction

Over the past 30 years, the fight against HIV and AIDS has emerged as one of the greatest and most urgent challenges faced by the world. Unfortunately, there is still no cure or vaccine for HIV. Because of prejudices and misconceptions associated with HIV and AIDS, affected individuals often face stigma and discrimination in their everyday lives and at work. Fear of discrimination and job loss deter many women and men from undergoing voluntary testing, counselling and treatment if needed.

With the advent of effective treatments, more people are living with HIV today than ever before. Therefore, the response to HIV and AIDS in today's world focuses on how people living with or affected by HIV can continue to live and work productively. The human immunodeficiency virus (HIV) can remain in the body for some ten to fifteen years before the immune system starts to weaken and eventually AIDS develops. Working women and men living with HIV can contribute to the productivity of their workplace with their knowledge, abilities and competences, for a long time after being infected and for as long as they are medically fit. Furthermore, treatment with antiretroviral therapy can inhibit the replication of HIV, delay the deterioration of the immune system and provide a better quality of life for workers and their families.

In 2009, an estimated 1.8 million people died of AIDS and in that same year 2.6 million people became infected. The most affected region is Sub-Saharan Africa, which is home to 22.5 million people living with HIV (PLHIV), 68 per cent of the global total of PLHIV (UNAIDS, 2010).

Many people living with HIV are in the prime of their working lives. Therefore, the suffering for families and the costs for enterprises and national economies of losing skilled and experienced workers are high.

Prevention efforts are essential to avoid the transmission of HIV and reduce the impact of the epidemic. The workplace offers a unique setting to reach a vital and productive segment of the population for awareness raising purposes. Tailored messages and strategies can be used regularly at work to address stigma and discrimination, support behaviour change and facilitate access to prevention, antiretroviral treatment, care and support.

"Nine of every ten people living with HIV will get up today and go to work."

Juan Somavia, Director-General of the ILO

AIDS is a workplace issue because it has a marked impact on workers, their families and dependants, enterprises and national economies.

2. The impact of HIV and AIDS

HIV is having a profound impact on individuals, employers and economies around the world. The epidemic is at different stages in different parts of the world. Its effects threaten the lives and livelihoods of workers and their families. It reduces productivity and threatens the survival and profitability of businesses, and limits the capacity of national economies. It undermines human rights, decent work, growth and development, as well as security and prosperity.

UNAIDS estimates that in 2009 33.3 million people were living with HIV (UNAIDS, 2010). The scale of the problem lies not only in the number of people infected so far (Figure 6.1), but also in the number of people who will continue to be affected in the future.

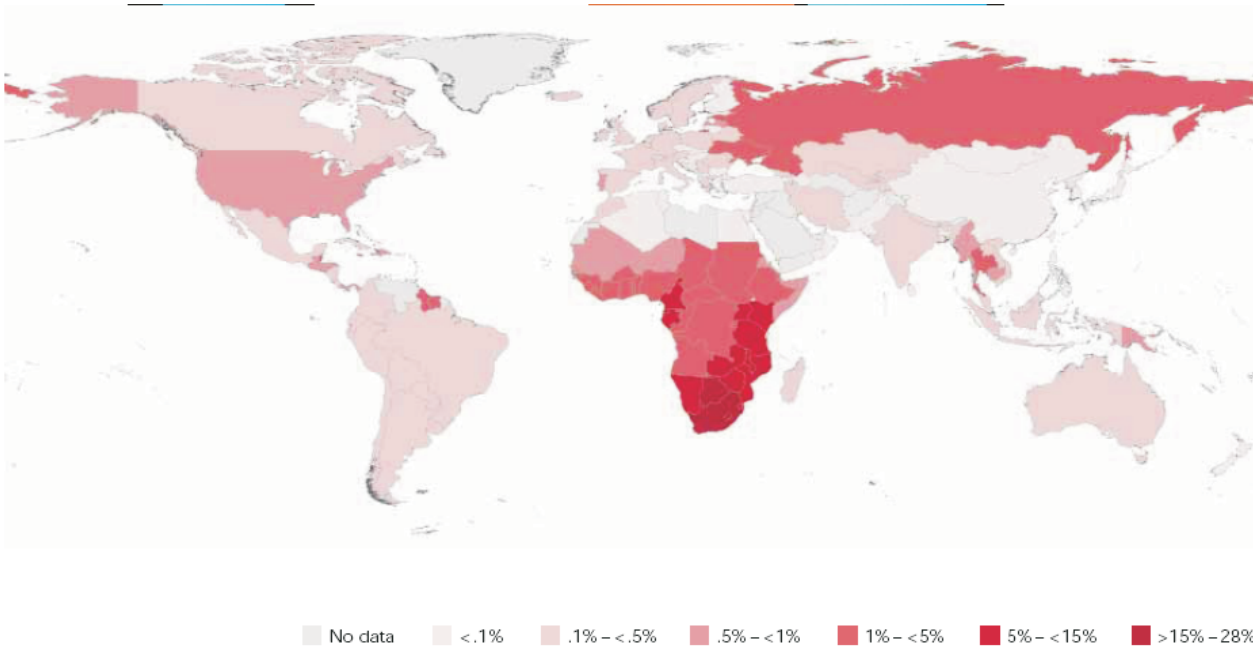


Figure 6.1 Global prevalence of HIV, 2009.

Source: UNAIDS, 2010.

The impact of HIV and AIDS is felt far beyond the individuals directly affected by it. Life expectancy in the worst affected countries is being severely reduced and the size of the workforce is shrinking. Economic growth and development are undermined. HIV and AIDS are having a wide-ranging and increasingly serious impact on the public and private sectors, as well as on workers from the informal economy. Food security and access to food is also threatened; agricultural production is reduced and crops depleted as the agricultural workforce in rural areas becomes affected by HIV and AIDS.

At the same time, the health and education of the next generation and the future workforce is at risk, particularly in poor communities. The informal transfer of skills is

also being undermined. There are an estimated 12 million children orphaned as a result of AIDS in Sub-Saharan Africa alone. Young children are being forced out of school to care for sick family members or to enter the labour market to feed the family. Others are living with HIV, or dying from AIDS related conditions.

In the worst-affected countries, the capacity of governments to deliver and support essential services is reduced as productivity falls, staff get sick or leave, and the costs of providing health, social care and social security benefits increase. Public services lose staff as workers in health and social care, education, emergency services, police and armed forces are becoming ill and dying of AIDS related conditions. This weakens public services and makes it harder to deliver essential services, treatment, care and support to the rest of the population.

The consequent impact of HIV and AIDS on individual businesses in those countries is clear. Many companies have conducted impact assessments showing significant losses in both productivity and profitability as a direct result of the loss of skilled workers due to HIV and AIDS. The epidemic also challenges micro, small and medium enterprises which have limited capacity to address the problem.

However, successful workplace interventions have shown that the trends can be mitigated or reversed. Developing comprehensive workplace policies and investing in preventive programmes represent a significant investment for the future.

Impact of HIV and AIDS in the world of work:

- reduced labour supply;
- loss of skilled and experienced workers;
- absenteeism and early retirement;
- stigmatization of, and discrimination against, workers living with HIV or affected by AIDS;
- increased labour costs for employers, from health insurance to retraining;
- reduced productivity and negative impact on economic growth;
- weakened demand, inability to attract investors and enterprise development undermined;
- social protection systems and health services under pressure;
- loss of family income and household productivity, exacerbating poverty;
- burden on women who need to take care of sick relatives while finding ways to support the family;
- pressure on girls and women to resort to providing sexual favours in order to survive;
- early entry of children into active employment.

Source: ILOAIDS, 2002.

According to the latest data available, HIV incidence has fallen by more than 25% between 2001 and 2009 in 33 countries. From these countries 22 are in Sub-Saharan Africa (Ethiopia, Nigeria, South Africa, Zambia, and Zimbabwe). The biggest epidemics in Sub-Saharan Africa have stabilized or are showing signs of decline.

However, several regions and countries do not fit this overall trend. In seven countries, (five of them in Eastern Europe and Central Asia), HIV incidence increased by more than 25% between 2001 and 2009.

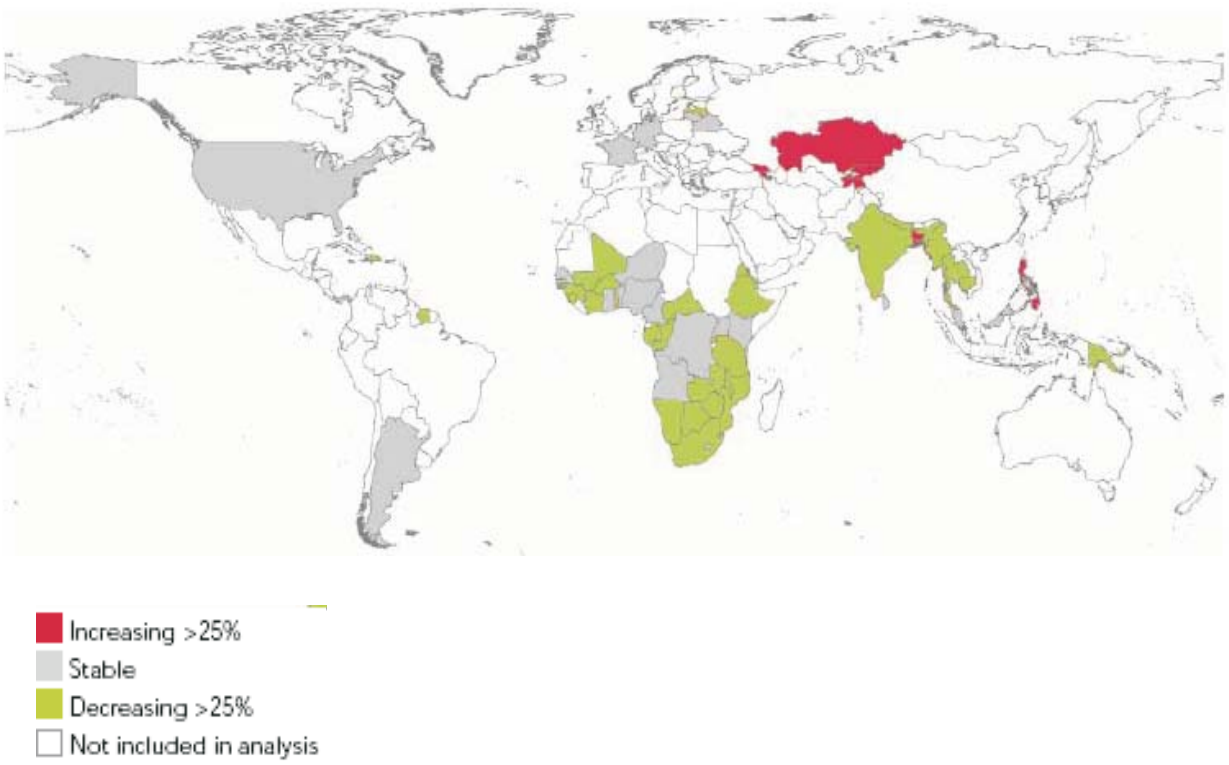


Figure. 6.2 Changes in the incidence rate of HIV infection, 2001 to 2009, selected countries.

Source: UNAIDS (2010).

These figures demonstrate that positive behaviour change can alter the course of the epidemic, while stigma and discrimination, lack of appropriate legislative framework and access to services can make epidemics worse. In both cases, the effects are often profound (UNAIDS, 2010).

3. Understanding HIV and AIDS

What is HIV and what is AIDS?

HIV stands for the human immunodeficiency virus. The virus is a micro-organism that infects cells of the human immune system and destroys or impairs their function. The immune system includes white blood cells that help protect the body from infections and diseases. Over time, HIV attacks and destroys these cells leaving the body without the protection of the immune system, and vulnerable to infections and illnesses.

HIV can be present for years without the person knowing that he or she is infected. People living with HIV can look and feel perfectly healthy. You cannot tell whether someone has HIV just by looking at them.

AIDS stands for acquired immunodeficiency syndrome. Acquired indicates that is not an inherited condition. Immunodeficiency indicates that the body's immune system has been damaged and that it has become vulnerable to a range of opportunistic infections which the body would normally be able to fight off. Syndrome refers to a group of signs and symptoms that characterize a particular health condition. In the absence of treatment, HIV generally takes 10 to 15 years or longer to progress to AIDS.

The term AIDS refers to the most advanced stages of HIV infection and related illnesses. These may include more than 20 opportunistic infections (for example, tuberculosis and pneumonia) and HIV-related cancers.

Appropriate medical treatment and care, in combination with proper nutrition, slow down the progression of AIDS, reduce symptoms, prevent opportunistic infections and prolong and improve the quality of life of the person living with AIDS.

How is HIV transmitted?

HIV can only be transmitted in the following ways:

- unprotected sex (anal, vaginal or oral between partners of either sex) with an infected partner);
- sharing of contaminated needles, syringes and other body-piercing instruments;
- transfusion of contaminated blood and blood products;
- transmission from a pregnant woman living with HIV to her child during pregnancy, delivery, or as a result of breast-feeding;
- occupational exposure to blood or blood products, or to contaminated needles, syringes, body piercing instruments or surgical instruments.

The most common way HIV is spread and acquired is through unprotected penetrative sex with an infected partner; 80 per cent of all HIV infections worldwide are acquired this way.

A person is highly infectious just after being infected with HIV. It may only take a single exposure to the virus (for example, a single unprotected sexual act) to become infected or to pass the virus to someone else.

How is HIV not transmitted?

You cannot get HIV by:

- shaking hands, touching, hugging, or sharing toilets;
- eating food prepared by someone who is living with HIV, sharing eating and cooking utensils or crockery;
- working alongside someone who is living with HIV;
- by kissing, including deep kissing; although HIV has been found in saliva in extremely small quantities, no-one has ever become infected by kissing;
- mosquito bites; mosquitoes can carry malaria and other diseases, but cannot transmit HIV.

Can AIDS be cured?

No, there is no cure for AIDS. Once a person has HIV, it cannot be eliminated. Unfortunately, efforts to find a vaccine have so far been unsuccessful. Claims by some traditional healers to have found 'cures' for AIDS have been investigated but have not proved to be effective in eliminating HIV or healing AIDS.

However, treatment is available in the form of antiretroviral therapy (ART). With proper management, these drugs are effective in controlling the virus and can prolong the life of people living with AIDS.

Who is most at risk?

Young people, and especially young women, are particularly vulnerable to HIV infection and the impact of AIDS both for biological and socio-economic reasons. Young women are physiologically more at risk of sexually transmitted infections (STIs) and HIV infection than men and twice as likely to contract the virus through unprotected sex. Scientific evidence shows that the viral load in semen is higher than in vaginal mucus, the vaginal membrane is thinner than penile tissue, semen remains longer in the vagina and young women are more vulnerable to micro lesions. Violence against women and girls has been shown to increase women's risk of becoming infected with HIV. Socio-economic inequalities make it more difficult for women and girls to protect themselves against HIV infection and exacerbate the impact of HIV and AIDS

on them. This includes economic and social dependency on men which diminishes the bargaining power of women to negotiate safer sex, and may also prevent them from seeking HIV testing and counselling and adhering to antiretroviral treatment (ART). Women and girls are traditionally the principal care-givers within their families and communities. They are therefore more heavily impacted by the burden of caring for HIV-infected family and community members than men and boys; HIV-related stigma and discrimination often affects women more than men, which in turn marginalizes women living with HIV.

Women and young girls who are not financially independent are also vulnerable to pressure to provide sexual favours or to sell sex in order to support themselves and their families. Female sex workers who do not use condoms, or cannot negotiate condom use with their clients, are also more likely to contract sexually transmitted infections (STIs), which they can then pass on to their partners. In addition, the presence of STIs increases the risk of transmission of HIV.

Women, girls and HIV

- The HIV epidemic has taken a devastating toll on the lives of young women, who account for 66% of infections among young people worldwide.
- HIV is the leading cause of death and disease among women of reproductive age (15-49 years) worldwide.
- In nearly all countries in sub-Saharan Africa and certain Caribbean countries, the majority of people living with HIV are women, especially girls and women aged 15-24 years.
- One half of people living with HIV globally are women and 76% of all HIV-positive women live in sub-Saharan Africa.
- Women living with HIV are more likely to experience violence due to their HIV status.
- In 2008 women accounted for two thirds of all caregivers for people living with HIV in Africa; women also comprised 70% of the world's poor and two-thirds of the world's illiterate.

Source: ILOAIDS, 2011.

People who have anal sex are particularly at risk, as the membranes inside the anus can tear easily, increasing the risk of the infection being transmitted. Drug users who share needles are also at a high risk of HIV infection. Nobody should ever re-use a needle, syringe or equipment used for injecting of any kind that has already been used by another person. Individuals who use drugs should take steps to prevent their exposure to HIV, particularly by ensuring that if drugs are injected, a clean syringe/needle is used every time. In many parts of the world where injecting drug use is know to be prevalent, needle-exchange programmes provide users with access to sterile syringes. Studies show that such programmes reduce the risk of HIV transmission without contributing to an increase in drug use.

Blood supplies in most parts of the world are now screened for HIV antibodies. Blood that has not been obtained from appropriately selected donors and that has not been screened for transmissible infectious agents such as HIV, in accordance with national

requirements, should not be used for transfusion, unless under the most exceptional life-threatening situations. Patients are at risk from blood infected with HIV in countries where blood and blood products for transfusion are not routinely screened for HIV, where contaminated needles and syringes are re-used, and where infection control procedures in health-care facilities are poorly followed. For health-care workers, the main risk of infection is through needle-stick injury, but although these injuries are quite common, the numbers of reported cases of infection are relatively low due to protocol precautions.

A pregnant woman living with HIV can pass on the virus to her baby in the womb or during delivery, or postnatally through breastfeeding. Both the woman and the foetus can become infected during pregnancy if the virus is passed on from an HIV positive sexual partner, hence the importance of knowing one's HIV status. Mother-to-child transmission of HIV is preventable.

Which workers can be at risk?

Occupational exposure to HIV

Some workers come into contact with human blood and other body fluids in the workplace. They face a risk of becoming infected with HIV because of their work. In such cases, appropriate safety and health measures should be put in place in order to prevent those workers from being infected.[1]

Other workers can also face risks both inside and outside the workplace if they come into contact with infected blood or other body fluids as the result of an accident or from contaminated equipment or materials. Therefore, training for all workers on first-aid and accident response should include elements on HIV and AIDS prevention.

Examples of workers who may be exposed to human blood and body fluids:

- Healthcare and other care staff;
- Emergency workers and first aiders;
- Mortuary workers and funeral staff;
- Nursery workers;
- Cleaners and hotel workers;
- Laundry workers;
- Waste disposal operatives;
- Prison staff;
- Aid workers;
- Tattooists, barbers and others using unguarded needles or blades.

[1] See the paragraph: Training for workers who come into contact with human blood and other body fluids due to their work, p.162.

Migrant workers

Many migrant workers are particularly vulnerable to HIV infection, because they often have little control over their lives in their new place of residence. Social, economic and political factors in origin and destination countries influence the risk of HIV infection of international labour migrants. The migrant worker vulnerability increases by the separation from spouses, families and social and cultural norms on one side, and by language barriers, substandard living conditions, exploitative working conditions and sexual violence on the other (UNAIDS, ILO, IOM, 2008).

Women migrant workers may be at higher risk of HIV as they often have limited or no access to HIV prevention and health-care services (ILO, 2009a). In addition, in some places, AIDS is viewed as a disease brought in by outsiders and such misguided association between migrant workers and AIDS adds to the discrimination and stigmatization.

Transport workers

Some groups of workers are at particular risk of HIV infection because of the nature and conditions of their work. Mobility and long absences from home make transport workers and seasonal workers more vulnerable to HIV infection. In a number of African and some Asian countries, HIV prevalence is higher among transport workers than in the general population, especially among long-distance drivers in some of the major transport 'corridors' (ILO, 2005b). Many transport and seasonal workers are hard-to-reach populations because of the highly mobile nature of their jobs. Hard-to-reach populations are at a dramatically increased risk of HIV infection because of the itinerant nature of their work or physical isolation.

Without strong ties to mainstream society, they are excluded from national public health outreach and have limited access to HIV prevention, AIDS treatment and care and support services. Furthermore, because of little knowledge on how to protect themselves from HIV, many engage in high-risk behaviour such as having unprotected sex with numerous partners.

Long-haul truck drivers constitute another hard-to-reach population, whose lifestyle puts them at high risk of contracting HIV. Along major trucking routes are truck stops where commercial sex is freely available 24 hours a day. Many truckers who frequent these establishments have unprotected sex with multiple partners. Truck drivers, just as any other highly mobile population, are hard to target in regard to HIV and AIDS information and education.

Seasonal workers

Many people are forced to accept temporary jobs away from home in order to survive. During harvesting seasons in plantations, at large construction sites and in the mining sectors, men and women are found living in often overcrowded camps with minimal sanitary facilities and health services.

The use of alcohol and drugs is usually rampant. Commercial sex is readily available. Recreation facilities are not always available. The contractual status and often the legal status of the workers are unclear, making them powerless and vulnerable to abuse of all kinds, including sexual abuse.

The socio-economic situation of seasonal workers makes them highly vulnerable to HIV infection. The often illegal nature of their work makes them avoid government officials. They are therefore out of reach of governmental prevention campaigns.

Seafarers

In many countries seafarers, and particularly fishermen, are highly vulnerable to HIV transmission. Their occupation calls for continuous travel to numerous destinations in different countries. After being at sea for months, boats dock for fuel, supplies, rest, repairs, or to sell fish. During these visits in ports seafarers may engage in high-risk behaviors, such as unprotected sex. Wives of fishermen are at a high risk of sexually transmitted infections. They have little means to protect themselves from any disease their husbands might bring home. As a result, many women will continue to contract sexually transmitted diseases and HIV infection from their husbands.

How can HIV infection be prevented?

Prevention requires changes in the sexual behaviours and attitudes of individuals, organizations and communities: this means tackling many deep-rooted social, cultural, emotional and personal factors, including gender inequalities and stigma and discrimination.

The first step is to recognise the problem and break the silence that surrounds HIV and AIDS and sexuality. Prevention through information, awareness-raising and participative education, as well as informed leadership are vital parts of this process. For each method of transmission, there is also a method of prevention. Specific measures include:

- Changing sexual attitudes, beliefs and behaviours. To prevent infection with HIV, people need to use safer sexual practices, or be faithful, or reduce their number of sexual partners. Condoms should always be used for penetrative sexual intercourse. Abstinence is another obvious way of avoiding sexual transmission and staying safe and healthy, but this is often unrealistic, especially when trying to start a family or in cultures where identity is closely linked to sexual activity and/or childbearing. Negotiating condom use is vital but problematic in societies where women lack negotiating skills or power, where condoms are unavailable or not trusted, or where contraception is opposed on religious or cultural grounds.

- Voluntary confidential counselling and testing (VCT) enables people to know their HIV status and be aware of the precautions they can take to protect themselves from HIV infection, and to prevent infecting others if they test positive for HIV. In addition, if they test HIV positive, they can get access to treatment when it will be most effective. It is important for HIV counselling to be gender-sensitive to address the particular needs and circumstances of women and men. Counselling should take place in a caring and supportive environment free from fear of discrimination and blame.
- Tackling drug abuse and providing free needle exchange schemes can greatly reduce HIV infection rates among injecting drug users.
- Preventing mother-to-child transmission of HIV involves preventing pregnant women and mothers from becoming infected and is the key to long-term prevention. But treatment of an infected mother with antiretroviral therapy can help to greatly reduce risks of transmission to her baby. It is good for the mother's health and also helps prevent the infection passing to the child. Breast milk contains a small amount of the virus, and breastfeeding carries a 30 per cent chance of HIV passing to the infant. But as there are other health risks associated with not breastfeeding, this is a difficult decision for the mother to make, particularly in areas lacking a safe water supply. An infected mother should seek advice from a competent healthcare worker prior to becoming pregnant and as soon as she knows she is pregnant.
- Routine screening of all blood and blood products, and effective infection control, with use of Universal Precautions[2] by health care structures, can prevent exposure to HIV and other blood-borne viruses at work.
- Preventing occupational exposure to HIV is also important. Preventive measures include the training for workers who come into contact with human blood and other body fluids due to their work. All workers should receive training about infection control procedures in the context of workplace accidents and first aid.[3]

2 See table on p. 163.

3 See table on p. 162.

4. Managing HIV and AIDS at work

The roles of governments, employers' and workers' organizations

The successful implementation of HIV and AIDS interventions in the world of work requires cooperation and trust between employers, workers, their representatives and government officials (where appropriate).

The social partners in the world of work; employers, trade unions and governments have vital roles to play in the fight against HIV and AIDS.

The participation of people living with HIV is also key in developing and delivering an effective response to HIV and AIDS.

Governments can provide an enabling legal framework incorporating issues such as confidentiality, non discrimination, reasonable accommodation and social protection. When necessary they should revise labour laws and other regulations to incorporate relevant provisions. They can also mobilize resources for health and social services and prevention programmes.

Employers and trade unions can take action together to raise awareness and encourage the world of work to take action on HIV and AIDS. They can press governments for action and resources, and can work with governments and others to develop effective interventions at every level.

> "The IOE {International Organisation of Employers] and the ICFTU [International Confederation of Free Trade Unions] jointly recognise the direct impact of the HIV and AIDS pandemic on the world of work. [We] hereby call on [our] affiliates and their member enterprises and trade unions, wherever located, to give the issue highest priority…and to work together to generate and maintain the momentum necessary for successful interventions."
>
> *Source: 'Fighting HIV and AIDS Together: a programme for future engagement' – Joint statement by the General Secretaries of the International Organisation of Employers and the International Confederation of Free Trade Unions, April 2003.*

At the national level governments, employers' and workers' organizations should consult, coordinate and work together to create an enabling environment. In some cases this has led to tripartite initiatives, such as the adoption of a tripartite declaration on the subject in Togo. This National Tripartite Declaration on HIV and AIDS and the World of Work was adopted in 2003 and revised in 2004. It specifies the roles and responsibilities of the government, employers' and workers' organizations in the fight against HIV and AIDS in the country. The Declaration and its accompanying

Consensus Statement have been signed by the Minister of Labour and high level representatives of the employers' and workers' organizations. The key principles of the ILO Code of Practice on HIV and AIDS and the World of Work are embedded in both documents which have been widely disseminated to enterprises and other partners in the world of work.

Recommendation concerning HIV and AIDS and the World of Work (No. 200)

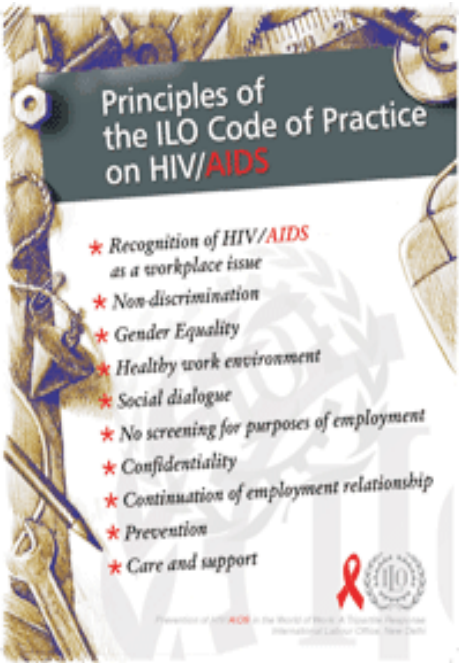
A new international labour standard on HIV and AIDS and the world of work was adopted by the International Labour Conference in June 2010: the Recommendation concerning HIV and AIDS and the World of Work (No. 200). It establishes key principles for the development of national tripartite policies and programmes on HIV and AIDS building on the ten key principles of the ILO code of practice on HIV and AIDS and the world of work (2001). While the Recommendation, as an international labour standard, is the main reference, the code of practice remains a valid instrument which provides useful guidance and complements it.

The Recommendation calls for those policies and programmes to be integrated into national strategies and development plans to ensure inclusion of the workplace and world of work actors in the response. The Recommendation provides for the policies and programmes to be developed, adopted, implemented and monitored through an inclusive participatory process engaging representatives of government, employers' and workers' organizations, associations of persons living with HIV and other relevant stakeholders, including the health sector. The Recommendation also calls for workplace measures to promote the active participation of both women and men in the HIV response, as well as the involvement and empowerment of all workers, regardless of their sexual orientation or whether or not they belong to a vulnerable group.

The ILO Code of Practice on HIV/AIDS

The ILO Code of Practice on HIV/AIDS and the world of work, developed in 2001 through tripartite consultations, establishes the fundamental principles for policy development and provides practical guidance for strategy implementation at national, sectoral and workplace levels. It covers the following key areas of action:

- prevention of HIV and AIDS;
- management and mitigation of the impact of HIV and AIDS on the world of work;
- care and support of workers infected and affected by HIV and AIDS;
- elimination of stigma and discrimination on the basis of real or perceived HIVstatus.



Key principles of the HIV and AIDS: Recommendation No. 200 and Code of Practice:

Recognition of HIV and AIDS as workplace issues:

HIV and AIDS are workplace issues, and should be treated like any other serious illness or health condition in the workplace. The workplace, being part of the local community, has a role to play in the wider struggle to limit the spread and effects of the epidemic.

Non-discrimination:

In the spirit of decent work and respect for the human rights and dignity of persons infected or affected by HIV and AIDS, there should be no discrimination or stigmatization against workers on the basis of real or perceived HIV status. Discrimination and stigmatization of people living with HIV inhibits efforts to promote HIV and AIDS prevention.

Gender equality:

The gender dimensions of HIV and AIDS should be recognized. Women are more likely to become infected and are more often adversely affected by HIV and AIDS than men due to biological, socio-cultural and economic reasons. The greater the gender discrimination in societies and the lower the position of women, the more negatively they are affected by HIV. Therefore, more equal gender relations and the empowerment of women are vital to successfully prevent the spread of HIV infection and enable women to cope with HIV and AIDS.

All measures taken in and through the workplace should ensure gender equality. The protection of sexual and reproductive health and sexual and reproductive rights of women and men should be promoted.

Healthy working environment:

All workers should receive education and training on modes of HIV transmission and measures to prevent exposure. All infection and awareness-raising measures should emphasize that HIV is not transmitted by casual physical contact and that the presence of a person living with HIV should not be considered a workplace hazard.

Social dialogue:

The successful implementation of an HIV and AIDS policy and programme requires cooperation and trust between employers, workers and their representatives and government officials, where appropriate, with the active involvement of workers infected and affected by HIV and AIDS.

NO mandatory HIV testing or screening for purposes of exclusion from employment:

HIV and AIDS testing or screening should not be required of job applicants or persons in employment. Prohibition of testing for employment and provision of confidential Voluntary Counselling and Testing (VCT) should be applied to avoid discrimination.

Confidentiality:

There is no justification for asking job applicants or workers to disclose HIV-related personal information. Nor should co-workers be obliged to reveal such personal information about fellow workers. Access to personal data relating to a worker's HIV status should be bound by the rules of confidentiality consistent with the ILO code of practice on the protection of workers' personal data, (1997).

The results of HIV testing should be confidential and not endanger access to jobs, tenure, job security or opportunities for advancement.

Continuation of employment relationship:

HIV infection is not a cause for termination of employment. As with many other conditions, persons with HIV-related illnesses should be able to work for as long as medically fit in available, appropriate work.

Prevention:

HIV infection is preventable. Prevention of all means of transmission can be achieved through a variety of strategies which are appropriately targeted to national conditions, culturally sensitive measures and socio-economic factors.

Prevention can be achieved through changes in behaviour and knowledge through the provision of information and education; or through treatment and the creation of a non- discriminatory environment. The social partners (employers, workers and governments) are in a unique position to promote prevention efforts in the workplace.

Prevention strategies should be adapted to the type of workplace and to national

HIV testing: key principles

HIV testing should **only** be carried out in accordance with the recommendations of the ILO code of practice:

- on the basis of voluntary, informed consent;
- under conditions of strict confidentiality; and
- with pre- and post-test counselling by a trained HIV counsellor.

HIV testing should **not** be required:

- at the time of recruitment;
- as a condition of continued employment, or
- if it affects terms and conditions of employment

Disclosure of status

- No employee, or job applicant, should be required to disclose their HIV status at work;
- confidentiality must be strictly observed when handling sensitive personal information and health records;
- managers should seek to support workers who freely choose to disclose their HIV status.

Reasonable accommodation

- Measures should be taken to reasonably accommodate the workers with AIDS-related illnesses;
- reasonable accommodation refers to any modifications or adjustment to a job or to the workplace that are reasonably practicable and will enable a person living with HIV and AIDS to have access to or participate or advance in employment:
- it could include rearrangement of working time, special equipment, opportunities for rest breaks, time off for medical appointments, flexible sick leave, part-time work and return-to-work arrangements.

Source: ILOAIDS, 2002.

conditions, and should take into account gender, cultural, social and economic concerns.

Treatment, care and support:

Solidarity, care and support should guide the response to HIV and AIDS in the world of work. All workers, including workers with HIV, are entitled to affordable health services, personal and family counselling and assistance. There should be no discrimination against them and their dependants in access to treatment and benefits from statutory social security schemes.

Responding to HIV and AIDS at the workplace

The precise action that is taken in the workplace will depend on the local situation, the size and type of organization involved, the needs of the workforce and the stage of the epidemic in the area. Even if prevalence levels are low, it is still important to act without delay. Early interventions can prevent the situation from becoming more serious. If prevalence levels are high, the need for action is just as urgent, but the interventions will be different, and the costs may be greater.

Workplace health interventions should be linked to public health services and workers and their dependents should have full access to such services. These should include access to free or affordable voluntary counselling and testing (VCT); antiretroviral treatment (ART); proper nutrition consistent with treatment; treatment for opportunistic infections and sexually transmitted infections, and any other HIV-related illnesses, in particular tuberculosis; and support and prevention programmes for persons living with HIV, including psychosocial support.

HIV and AIDS are workplace issues

Its impact is felt by workers and managers, and by those who depend on them. The workplace has a key role to play in the fight against AIDS, and is well placed to do it.

The workplace:

- allows the development of policies and strategies including measures to protect the rights of workers to non-discrimination, confidentiality, and access to reasonable accommodation;
- can get consistent, accurate messages about HIV and AIDS and health to workers with similar profiles, in terms of their age, occupation, education, level of income, behaviours, social and cultural backgrounds, who might otherwise not receive these messages;
- can link workers to community services which provide information on sexually transmitted infections, voluntary counselling and testing, care and support, as well as access to antiretroviral therapy;
- can provide opportunities for motivating and mobilising people and resources, for supporting individuals, their families and local communities to build effective partnerships.

It is necessary first to find out what is really happening and which are the hidden problems. This means consulting others and carrying out fact-finding exercises to assess what needs to be done and establish priorities.

A workplace policy should offer guidance on how HIV and AIDS will be managed in the workplace as part of an integrated OSH policy approach which includes health promotion and well-being.[4]

Incorporation of HIV and AIDS in workplace prevention programmes

Prevention programmes should ensure that:

- accurate and up to date information is made available and accessible to all;
- education programmes are developed to help workers understand and reduce the risk of all modes of HIV transmission, including mother-to-child transmission, and understand the importance of changing risk behaviours related to the infection;
- effective occupational safety and health measures are in place;
- measures to encourage workers to find out about their own HIV status are taken through voluntary counselling and testing;
- access to all means of prevention of HIV (e.g. condoms and information about their correct use, availability of post-exposure prophylaxis) is provided;
- education programmes focus on reducing high-risk behaviours and most at-risk groups; and
- strategies are based on relevant international instruments, such as the ILO Recommendation concerning HIV and AIDS and the world of work, 2010 (N. 200), the ILO Code of Practice on HIV/AIDS (2001), as well as guidelines published by the World Health Organization (WHO), the Joint United Nations Programme on HIV and AIDS (UNAIDS) and the United Nations Office on Drugs and Crime (UNODC).

Training as a tool for prevention

Given the sensitive nature of the HIV issue, training must be a key part of any workplace policy and prevention programme. The ILO Code of Practice recommends that:

- different HIV and AIDS training is provided for different groups;
- HIV and AIDS training is part of ongoing enterprise training, developed in consultation with workers' representatives;
- HIV and AIDS training is culturally and gender sensitive, with trainers trained to deal with prejudices against minorities, especially in relation to ethnic origin or sexual orientation.

HIV and AIDS training should be a standard part of the company training plan. Matters relating to HIV and AIDS should regularly crop up in other training modules, particularly those on health promotion, as these issues are interrelated.

4 See example of Policy principles on p. 155.

The importance of training for senior management should not be overlooked. Experience in good practices shows that it makes a real difference to raise awareness among senior management on the problem, the consideration of those infected or sick, and the commitment to the fight against HIV and AIDS.

Training for workers' representatives is recommended during paid working hours, and may be delivered at the workplace or via the trade unions concerned, or both. It should cover many of the same topics as in the management training, including policy aspects and up-to-date factual information on HIV and AIDS. It should also address their role as representatives and advocates.

In the workplace, peer educators have proven to be very effective because they work on a person-to-person basis. They should be one of the main tools used in workplace programmes. Personal interventions can have a great impact on behavioural change. Peers have similar backgrounds, values and jobs and can be trained to provide information, education and even counselling. They can provide tailored information to their co-workers. They can also play an important role in helping make behavioural change happen.

Training for workers who come into contact with human blood and other body fluids due to their work[5]

Workers who come into contact with human blood and other body fluids at work should receive education and training on modes of transmission and measures to prevent HIV exposure and infection. In this context, it should be emphasized that HIV is not transmitted by casual physical contact and that the presence of a person living with HIV should not be considered a workplace hazard. All workers should receive training about infection control procedures in the context of workplace accidents and first aid. The programmes should provide training:

- in the provision of first aid;
- about Universal Precautions to reduce the risk of exposure to human blood and other body fluids;
- in the use of protective equipment;

International guidelines were launched in November 2010 by the International Labour Organization (ILO), the World Health Organization (WHO) and the Joint United Nations Programme on HIV and AIDS (UNAIDS) aimed at protecting health workers from occupational exposure to HIV and AIDS and Tuberculosis (TB) and providing access to prevention, treatment and care. These guidelines directly aim to ensure that health workers have access to universal and standard precautions, preventive therapy for tuberculosis, HIV post-exposure prophylaxis and treatment, compensation schemes for occupational infection, and social security or occupational insurance at the workplace. The new guidelines are important particularly for health workers in areas with high prevalence of HIV and TB, such as doctors, nurses and midwives, technical staff such as pharmacists and laboratory technicians, as well as health managers, cleaners, security guards and other support workers. There are an estimated 60 million health workers throughout the world.

Source: ILO: Joint WHO/ILO policy guidelines on improving health worker access to prevention, treatment and care services for HIV and TB (Geneva), 2010. Available at: http://whqlibdoc.who.int/publications/2010/9789241500692_eng.pdf

5 ILO: Code of Practice, 2001.

- in the correct procedures to be followed in the event of exposure to human blood or body fluids;
- the right to compensation in the event of an occupational accident.

Training programmes should emphasize that the taking of precautions is not necessarily related to the perceived or actual HIV status of individuals.

Universal Precautions

Universal Precautions are a simple set of effective practices designed to protect health workers and patients from infection with a range of pathogens including bloodborne viruses. Decisions regarding the level of precautions to use are based on the nature of the procedure and not on the actual or assumed serological status of the patient.

Universal Precautions includes the following interventions:

- Hand washing after any direct contact with patients
- Preventing two-handed recapping of needles
- Safe collection and disposal of needles (hypodermic and suture) and sharps (scalpel blades, lancets, razors, scissors), with required puncture- and liquid- proof safety boxes in each patient care area
- Wearing gloves for contact with body fluids, non-intact skin and mucous membranes
- Wearing a mask, eye protection and a gown (and sometimes a plastic apron) if blood or other body fluids might splash
- Covering all cuts and abrasions with a waterproof dressing
- Promptly and carefully cleaning up spills of blood and other body fluids
- Using a safe system for health care waste management and disposal

Within the health sector, post-exposure prophylaxis (PEP) should be provided as part of a comprehensive universal precautions package that reduces staff exposure to the risk of getting infected at work. PEP is short-term antiretroviral treatment to reduce the likelihood of HIV infection after potential exposure.

Source: AIDE-MEMOIRE for a strategy to protect health workers from infection with bloodborne viruses, WHO.
Available at: http://www.who.int/injection_safety/toolbox/docs/AM_HCW_Safety.pdf (Accessed 27/06/2011).
Additional information on PEP can be found at: http://www.who.int/hiv/topics/prophylaxis/info/en.

Behaviour Change Communication

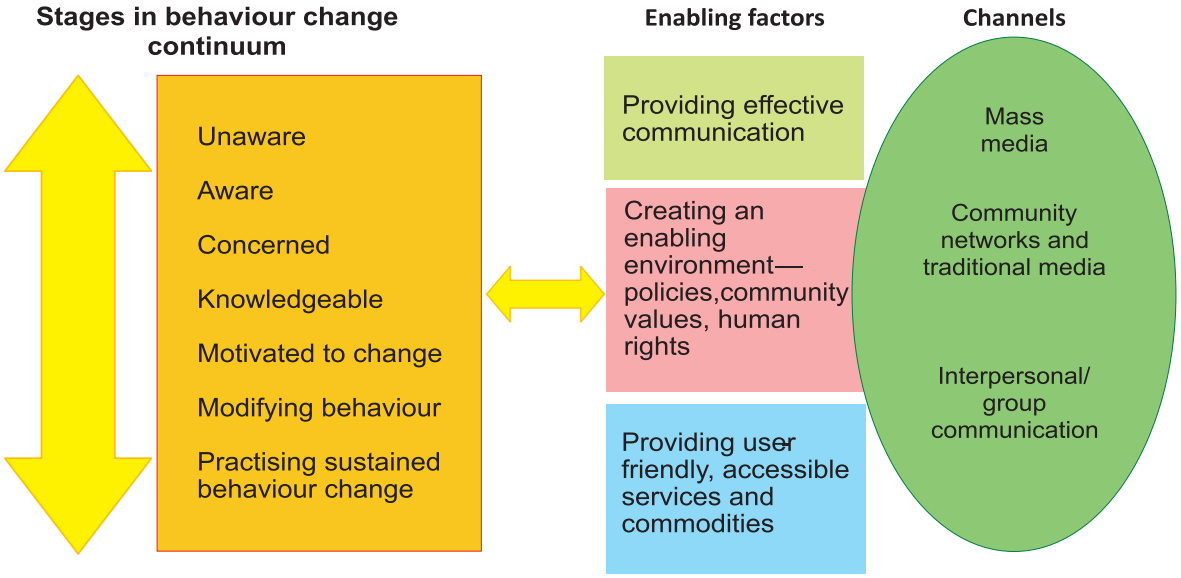
In order to support workplace efforts in developing and implementing HIV and AIDS workplace prevention programme, the ILO has developed a Behaviour Change Communication (BCC) toolkit for the workplace (ILOAIDS, 2005) in collaboration with Family Health International (FHI). It provides a step-by-step approach, emphasizing prevention through education, gender awareness and practical support for behaviour change.

Behaviour change communication uses a mix of communication channels to encourage and sustain positive and appropriate behaviours. It promotes tailored messages,

dialogue and full ownership. Participation of the workplace stakeholders is vital at every step of planning and implementation of the behaviour change programmes to ensure sustainable change in attitudes and behaviour.

Before individuals and communities can reduce their level of risk or change their behaviours, they must first understand the basic facts about HIV and AIDS, assess and modify their attitudes, learn new skills, and gain access to appropriate products and services. They must also perceive their environment as supportive of behaviour change and the maintenance of safe behaviours. To be effective, BCC programmes need to be tailored to specific target populations.

Behaviour change takes place in stages. The following diagram is a practical model which shows 'stages of change', and enabling factors that support behavioural change. People may need different messages and information resources at different stages of change.



Effective behaviour change communication can:

- increase knowledge of HIV and AIDS;
- stimulate social and community dialogue;
- promote essential attitude change;
- improve skills and sense of self-effectiveness;
- reduce stigma and discrimination against people living with HIV;
- create a demand for information and services;
- advocate an effective response to the epidemic; and
- promote services for prevention, care and support of vulnerable populations.

5. Good practices

> "No single action is appropriate or possible in all settings, shaped as they are by the different waves of the HIV and AIDS epidemic. The challenge is to help countries, employers and workers in all stages of the epidemic to benefit from the lessons of experience and good practice, and to accelerate and upscale effective initiatives in prevention, care, support and treatment."
>
> *Source: ILO Consensus Statement, 2004.*

Experience shows that effective workplace action against HIV and AIDS can and does work. It helps reduce risks and prevent infection, suffering and early death. Millions of lives can be saved and millions of workers can live longer, healthier and more productive lives if workplace programmes succeed in:

- breaking the silence that surrounds HIV and AIDS and creating an enabling workplace environment free of stigma and discrimination;
- reaching enterprises, workers, their families and communities with vital factual information about HIV and AIDS prevention, treatment and care and support services;
- mobilizing people and resources, working together with key partners to raise awareness, encouraging healthy behaviour, combating stigma and discrimination, building enabling, safe and caring workplaces and facilitating care and support for women and men affected by HIV and AIDS, and empowering individuals and communities.

Setting up a workplace strategy on HIV and AIDS does not mean starting from scratch. There is a wealth of experience and many examples of good practice to learn from and build on. Global business alliances and international trade unions, international agencies, governments and non-governmental organizations (NGOs) have produced guidance, developed case studies and provided resources. Making contact with key partners can help develop and adapt good practices, saving time and avoiding wasted efforts. Each approach needs to be tailored to the needs of the workplace in question, and the resources and support that are available. For example, for small businesses, and for work involving the informal economy and the community, one of the key lessons from experience is the importance of forging close links with others beyond the workplace.

Examples of good practices:

NAMDEB Diamond Corporation, Botswana

In Botswana, NAMDEB Diamond Corporation employs nearly 4,000 people, who in turn have about 6,000 dependants. The company collaborated with unions to develop a programme providing peer education as well as free condom distribution, management of sexually transmitted infection (STIs), voluntary and confidential HIV counselling and testing services, and diagnosis and treatment for tuberculosis and opportunistic infections for all HIV-positive workers. The comprehensive programme has had a positive impact on controlling HIV and other STIs. Approximately 200,000 condoms are distributed annually. Annual reported cases of STIs among workers fell from 533 to 186 in three years (Rau, 2002).

RRR Industries, India

RRR Industries is a small business providing high-tech information and communications technology (ICT) services to other small businesses and organised workers in the informal economy. Its HIV and AIDS activities are primarily directed at this target group. Its non-discriminatory policy places a strong emphasis on both prevention and on fostering a culture of care and support for people living with HIV. Amongst other things, the company has helped to make resources available for interventions involving young trainee drivers and for condom distribution schemes in local industrial estates, retail outlets and transport facilities. A scheme offering financial incentives for small businesses, public transport facilities and retail outlets to 'house' condom vending machines and keep them stocked is reported to have increased distribution and support. The company is now building up partnerships with people living with HIVgroups to develop possible employment opportunities and Business Credit Programmes for people living with HIV (Paul, 2003).

Kahama Mining Corporation Ltd. (KCML) (Barrick Gold Corporation), Tanzania

KCML's HIV and AIDS partnership programme combines workplace prevention, voluntary counselling and testing, treatment and care with community development, care and support. It emphasizes community infrastructure development, home ownership, and empowerment of women and youth in the community. Initiatives include a home ownership scheme for mine workers to overcome separation from families and reduce high-risk behaviour, sexual and reproductive health services, encouraging small business development and providing training for women and others in life skills and small business skills to encourage alternatives to commercial sex work.

Teacher training programme on HIV and AIDS

In 2001 Education International (EI), a trade union, the World Health Organisation and Education Development Center (EDC); a non-governmental organization, launched a joint Teachers Training Programme on HIV and AIDS prevention in schools. The programme was implemented in 17 countries: Botswana, Guyana, Lesotho, Malawi, Namibia, South Africa, Swaziland, Tanzania, Zambia, Zimbabwe, Burkina-Faso, Côte

d'Ivoire, Guinea, Haiti, Mali, Rwanda and Senegal. Up to the year 2005, over 133,000 teachers were trained on HIV and AIDS prevention in more than 25,000 schools.

The main objective was to provide teachers with the skills necessary to prevent HIV infection for themselves, their colleagues and students. The programme also enables teachers to advocate for the role of schools in preventing HIV infection and to raise awareness on a number of HIV related issues including antiretroviral therapy, voluntary counselling and testing, stigma and discrimination. (ILO, 2009b).

6. Interrelationships

Important psychosocial issues are linked to HIV and AIDS. Stress, violence, drug and alcohol abuse, all need to be addressed in the HIV and AIDS response.

The importance of HIV and AIDS and nutrition also needs to be highlighted. Each one can be the cause of the other, potentially creating a vicious circle which requires urgent intervention.

HIV and AIDS and stress

Prejudices and misconceptions about HIV and AIDS, stigma, denial and discrimination affect social attitudes, behaviours and organizational culture. These factors can all contribute to extreme stress for those infected and affected by HIV and AIDS. HIV and AIDS related stress also affects those who have to manage its impact, or those family members left behind when the sick person dies.

Reducing stress is important for the health of people living with HIV. Stress is known to weaken the immune system, making people more susceptible to infection. For people living with HIV, this can further contribute to the risks of an opportunistic infection and ill health, as the immune system is already weakened by the virus.

Pressure on the response to the epidemic in health care workers, members of voluntary associations or family, can be a source of stress and loss of morale. Many of the countries with the greatest need for health care workers are losing them, either because they migrate seeking better working conditions or leave the profession altogether.

Chart I shows some of the key interrelationships between HIV and stress.

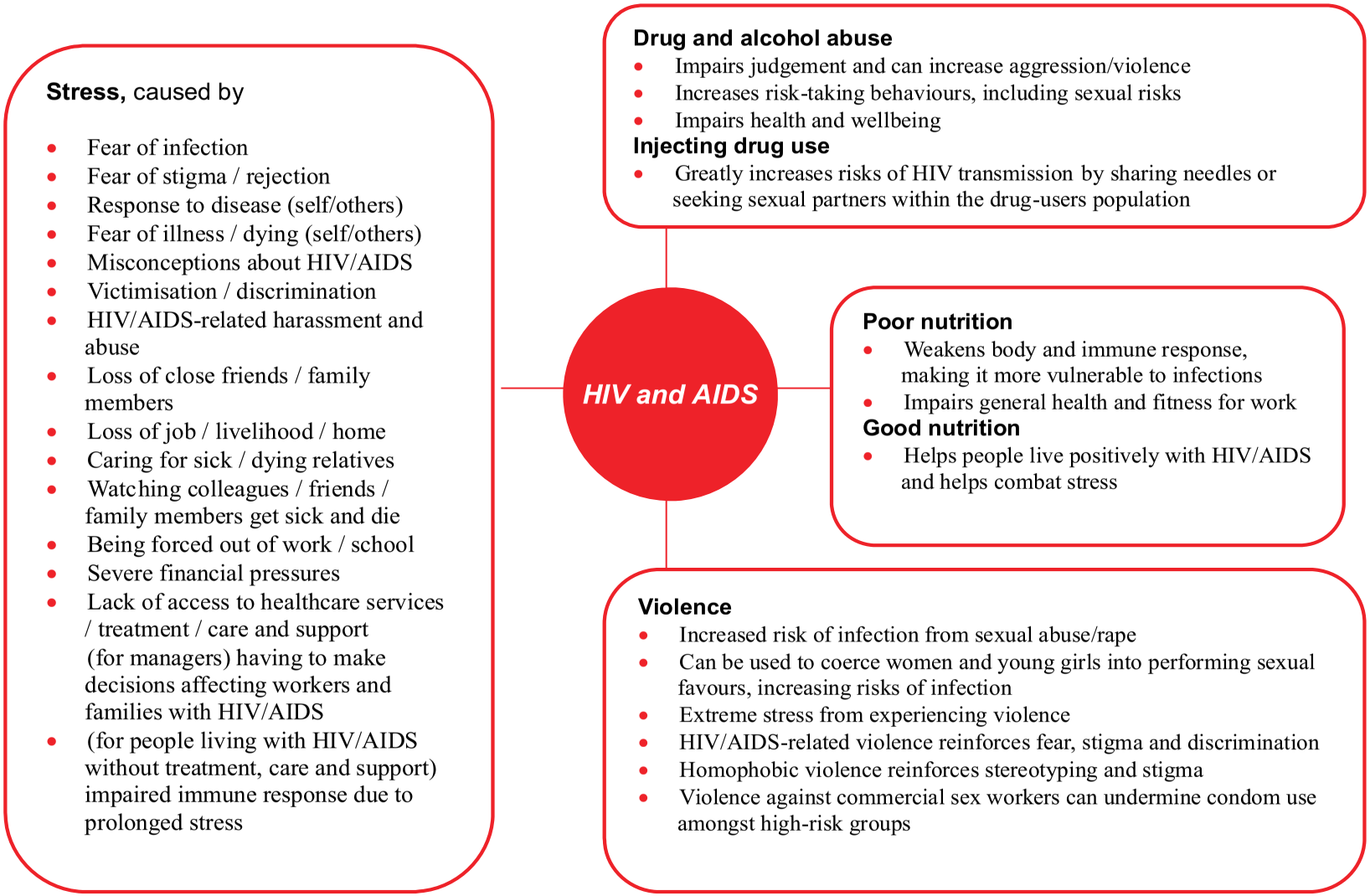
HIV and AIDS and smoking

People living with AIDS are particularly susceptible to respiratory infections and tuberculosis. Smoking puts them at further risk of respiratory diseases and cancer, damages their lungs and further reduces their ability to live with HIV.

HIV and AIDS, drugs and alcohol

Contaminated equipment used by injecting drug users is a significant factor in the spread of HIV. Shared syringes among injecting drug users, some of whom are HIV-positive, carries a high risk of HIV infection. Studies have shown that there are more cases of HIV among injecting drug users and their partners than in the average population.

Chart I
Causes and effects of key interrelationships between psychosocial issues and HIV



Alcohol is also linked to the transmission of HIV as it inhibits judgment and makes people careless, so condom use may be considered unnecessary. This increases the risk of unprotected sex. Alcohol abuse It is also associated with sexual violence, which in turn can increase the risk of HIV transmission.

HIV and AIDS and violence

For people who have been subjected to rape or sexual assault, or pressured into having unprotected sex, fear of infection is added to the trauma of sexual abuse.

Those affected by HIV and AIDS may also be at increased risk of violence. They may be blamed, stigmatized, suffer violence or they may act violently towards others. To reduce the risk of HIV and AIDS related violence and discrimination, steps need to be taken to combat stigma and attitudes towards discrimination, as well as to create a healthy and supportive workplace environment.

HIV and AIDS and nutrition

Appropriate nutrition helps strengthening the ability to fight HIV or preventing the onset of symptoms in people living with HIV and reducing the risks of opportunistic infections. Those caring for them also need a healthy diet to keep up their strength. Many carers cannot afford to feed themselves or others adequately, especially if they have had to give up their own jobs in order to provide care.

Individuals with HIV need to take vitamin supplements to compensate for some of the effects of the virus and the antiretroviral drugs used in treatment of HIV or other related conditions. These supplements play a very important part in helping people living with HIV to live positively and productively, enabling them to enjoy a better quality of life and remain fit for work.

The workplace can be a source for food supplements, food assistance, moral and emotional support and a means of financial support.

7. Policy integration

Employers and workers should cooperate in a positive, caring manner to develop an OSH policy which addresses HIV infection and AIDS not only as an occupational disease where appropriate, but as a matter of health promotion for the entire workforce. The policy should respond to, and balance the needs of, employers and workers. Backed by commitment at the highest level, the policy should offer an example to the community in general on how to manage HIV and AIDS as part of a holistic OSH approach to address health promotion in the workplace.

A workplace policy should offer guidance on how HIV and AIDS will be managed in the workplace as part of an integrated OSH policy which includes health promotion and well-being. Wide consultations will be necessary and it can be useful to establish a committee, including:

- representatives of top management;
- supervisors;
- workers;
- trade unions;
- human resources department;
- industrial relations unit;
- occupational health unit;
- health and safety committee; and
- persons living with HIV and AIDS, if they agree.

The committee can develop the policy on HIV and AIDS, which should be fully integrated into the OSH policy, and applied by all stakeholders. In those workplaces where there is a committee on occupational safety and health it may be more appropriate to give the responsibility for HIV and AIDS to this existing body, as the prevention of work-related diseases and health promotion are under their tasks.

The OSH policy addressing HIV and AIDS should be widely circulated before being finalized. The aims should be clearly communicated and made known at all levels once agreed.

It is vital to secure the full backing of senior management, and to ensure that workers and their representatives are fully involved at all stages of development and implementation. It is also vital that the commitments made are actually delivered in practice. A piece of paper on its own changes nothing, but an effective strategy for workplace action can make all the difference.

Finally, it is essential to monitor and evaluate the policy to make sure that it is working effectively. This means setting goals and objectives at the start, and then measuring progress in achieving them. Policies and strategies should be reviewed regularly and updated where necessary in the light of changing conditions and the findings of any surveys or studies conducted.

A comprehensive OSH policy will provide a cohesive framework for an HIV and AIDS strategy aimed at reducing the spread of HIV and managing its impact. Such a policy should:

- commit the workplace to take action;
- lay down standards of behaviour for all workers (whether living with HIV or not);
- define the rights of all;
- give guidance to managers and workers' representatives.

The following policy elements apply particularly to HIV and AIDS and can be used for the design of a preventive programme:

- Training, education and information: HIV and AIDS are still very often misunderstood, for social, cultural and medical reasons. This is why training and education is particularly important in creating a positive approach to HIV and AIDS. This was reflected in the section "Managing HIV and AIDS at work".
- Continuous improvement: HIV and AIDS are not static problems. The epidemic changes, the disease will progress in those who have it, and the needs of each workplace will change. It is vital to keep up with changes in the workplace and re-adjust policy and strategy.
- Worker involvement and consultation: considering the taboos surrounding HIV and AIDS, it is particularly important to involve workers in policy and strategy planning and implementation. This can ensure buy-in and the success of the related programme. It is also a good idea to consult with and involve people living with HIV, if they agree, whether they are workers in the company or in the community.
- Work organization: in the majority of companies, there will be many elements of work organization that will NOT need to be changed, such as toilet and eating facilities for workers with and without HIV. However, ensuring that workers living with HIV are reasonably accommodated in their work as the disease progress may require some changes on how work is organized.
- Treatment and assistance: policy on care and support for HIV should deal with the issue like any other serious health condition in terms of access to treatment, benefits, compensation. It should allow workers adequate time and flexibility to deal with their illness.
- Risk assessment and management: commonly used in health and safety practice, assessing risks can be a good way to find the right approach to HIV and AIDS in a given enterprise.

- Recruitment: there should be no discrimination on the grounds of HIV status at recruitment level and therefore, no screening or testing for HIV of job candidates.
- Ethics and confidentiality: when dealing with such sensitive health and cultural information about workers, a policy incorporating confidentiality is essential.
- Social responsibility: by dealing with HIV and AIDS in a socially responsible way, the enterprise respects the dignity and health needs of its workers and can improve its image and impact on the community.

Learning from good practice

The combination of the following factors is common to good practice in the implementation of workplace policies and programmes on HIV and AIDS and could be used as a reference:

- Consultation, participation and partnership
  - Involve governments, employers and workers, and their organizations;
  - ensure ownership;
  - use social dialogue to decide policies, share resources and implement programmes, with back-up from additional partners where necessary.
- Leadership

Leadership from governments, employers and workers at all levels:

  - helps inspire trust, mobilise support and ensure implementation;
  - contributes to the success of projects, programmes and partnerships.
- An enabling environment - laws and rights

Planning and implementation of workplace programmes depends critically on supportive legal and policy arrangements that:

  - Recognise HIV and AIDS as a workplace issue;
  - integrate workplace activities in national AIDS programmes; and
  - ensure protection of rights.
- Trust and non-discrimination
  - Stigma and discrimination are major obstacles to take-up of essential services such as voluntary counselling and testing (VCT) and treatment, even when free;
  - an atmosphere of openness and trust, based on confidentiality and respect for rights, is the best way to help create conditions in which people respond positively to behaviour change messages, VCT and treatment provision.
- Building on existing structures

As well as drawing on the systems and structures in place, it is also necessary to adapt them to reflect the specifics of the situation and the evolution of the epidemic. Examples of appropriate structures at the workplace include:

- safety and health committees;
- occupational health services;
- employers' and workers' education and training programmes.

- Prevention, care and support, and access to treatment - a continuum

Prevention programmes and VCT take-up are greatly enhanced where there is adequate capacity and access to care, support and treatment. Providing care and support, and treatment for opportunistic infections, sexually transmitted infections and HIV:

- reduces inequality;
- builds trust;
- encourages people to address their HIV status and their behaviour;
- treatment for expectant and nursing mothers means care for women and chances of preventing infection in children.

- Going beyond the workplace

Activities need to reach beyond the workplace and extend services to families and communities, in order to be effective and have an impact on people who are unemployed or in the informal economy;

- governmental and sectoral policies can play an important role in achieving these goals.

Communications

- Clear, precise and understandable messages are central to the success of information and education campaigns;
- develop tailored messages for each target audience in order to communicate effectively.

- Gender-specific programmes

Gender is profoundly linked to the risk factors for HIV infection, and the way the epidemic affects individuals and families. It is essential to:

- incorporate the gender dimension in all workplace activities;
- address women's social and economic position as well as factors that shape the behaviour of both men and women.

- Equity: access for all those in need

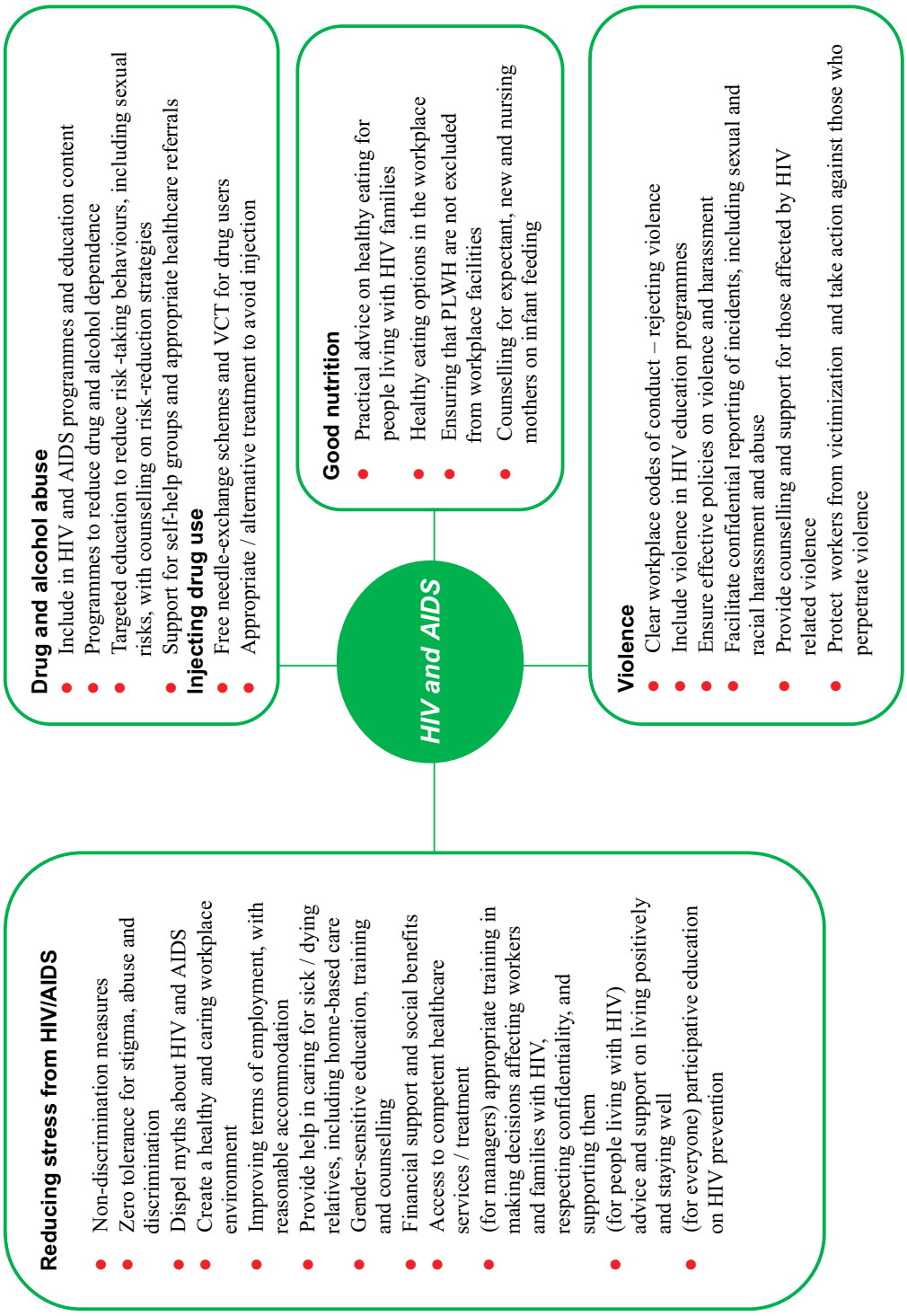
HIV and AIDS tend to hit the most disadvantaged in the hardest way. Targeting responses to vulnerable groups helps tackle inequality, as does outreach to the local community and informal economy. Access to treatment is one of the core issues in terms of equity.

Source: ILO Consensus Statement, 2003.

The following Chart II shows some of the key measures that can help in addressing the issues through a preventive programme:

Chart II

Key action points: addressing the issues



Bibliography

- Ball, L.; Crofts, N. 2002. "HIV Risk reduction in injecting drug users" in P. Lamptey and H. Gayle (eds.): *HIV and AIDS Prevention and care in resource-constrained settings: Handbook for the design and management of programs* (Durham, NC, Family Health International).
  Available at: http://www.fhi.org/en/hivaids/pub/guide/hivaidspreventioncare.htm

- De Cock, K.M. et al. 2000. "Prevention of Mother to child HIV transmission in resource–poor countries: translating research into policy and practice" in *Journal of the American Medical Association*, Vol. 283, No. 9.

- Global Health Initiative. 2004. *Business and HIV and AIDS: Who me? A global review of the business response to HIV and AIDS 2003-2004. Available at:*
  http://www.weforum.org/pdf/Initiatives/GHI_BusinessAIDSWhoMe_All.pdf

- Goyer, K.C. 2001. *HIV and AIDS in Prisons: Problems, Policies and Potential*, Monograph No. 79 (Pretoria, South Africa, Institute for Security Studies).

- Hamers, F.; Downs, A. 2003. "HIV in Central and Eastern Europe" in *The Lancet*, Vol. 361, No. 9362, March 22 (London, UK.)

- International Labour Office (ILO); Family Health International (FHI). 2005. *Behaviour Change Communication Toolkit for the Workplace*.

- —. 2001a. *ILO Code of Practice on HIV and AIDS and the World of Work* (Geneva).

- —. 2001b. *Implementing the ILO Code of practice on HIV and AIDS and the world of work – an education and training manual* (Geneva).

- —. 2004a. *Consensus Statement: Tripartite Interregional Meeting on Best Practices in HIV and AIDS Workplace Policies and Programmes* (Geneva).

- —. 2004b. *HIV and AIDS and work: global estimates, impact and response* (Geneva). Available at: www.ilo.org/aids.

- —. 2004c. *Women, girls, HIV and AIDS and the world of work*. Available at: www.ilo.org/public/english/protection/trav/aids/index.htm

- —. 2005. *Joint ILO/WHO guidelines on health services and HIV and AIDS* (Geneva). Available at:
  http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---ilo_aids/documents/publication/wcms_115049.pdf

- —. 2005b. *Using the ILO Code of practice on HIV/AIDS and the world of work: Guidelines for the transport sector* (Geneva).

—. 2009a. *Gender equality at the heart of decent work*, Report VI, International Labour Conference, 98th Session, Geneva.

—. 2009b. HIV/AIDS and the world of work, Report IV(1), International Labour Conference, 98th Session, Geneva.

—. 2010. *Joint WHO/ILO policy guidelines on improving health worker access to prevention, treatment and care services for HIV and TB* (Geneva). Available at: http://whqlibdoc.who.int/publications/2010/9789241500692_eng.pdf

ILOAIDS. 2002. *HIV and AIDS + Work – guidelines for employers: Using the ILO Code of Practice and Training Manual* (Geneva).

—. 2005. *HIV/AIDS Behaviour Change Communication – A toolkit for the workplace*.

—. 2011. *Women, Girls and HIV and AIDS: Education, Women's Economic Empowerment and Workplace Violence* (OIT/ONUSIDA/UNESCO), Fact sheet, Available at: http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---ilo_aids/documents/publication/wcms_152931.pdf

Institute for Security Studies (ISS). *HIV and AIDS in prisons: Problems, policies and potential,* 2001.

International Organization of Employers (IOE); UNAIDS. 2002. *Employers' Handbook on HIV and AIDS – A Guide for Action*.

Michiels, S.; Extension, education and communication Service (SDRE); Food and Agriculture Organization (FAO). 2001. *Strategic approaches to HIV prevention and AIDS mitigation in rural communities and households in sub-Saharan Africa*.

Paul, J. 2003. *Best Practices in HIV and AIDS prevention in the Workplace*, Draft background paper, Interregional tripartite meeting on best practices in work place policies and programmes on HIV and AIDS.

Rau, B. 2002. *Workplace HIV and AIDS Programs: An Action Guide for Managers* (Family Health International).

Tallis, V. 2002. *Gender and HIV and AIDS – Overview Report* (Brighton, Institute of Development Studies)**.**

UNAIDS. 1999. Sex and youth: contextual factors affecting risk for HIV and AIDS: A comparative analysis of multi-site studies in developing countries (Geneva).

—. 2001. *Young men and HIV: Culture, poverty and sexual risk* (Geneva).

—. 2008. *Report on the global AIDS epidemic* (Geneva).

Websites

- ILO/AIDS
  http://www.ilo.org/public/english/protection/trav/aids/index.htm

- UNAIDS
  http://www.unaids.org

- WHO
  Programme on HIV and AIDS http://www.who.int/hiv/en/

- World Economic Forum: Global Health Initiative (GHI)
  http://www.weforum.org/globalhealth

- Global Business Coalition on HIV and AIDS (GBC)
  http://www.businessfightsaids.org

- Global AIDS Alliance
  http://www.globalaidsalliance.org

- Family Health International (FHI)
  http://www.fhi.org

- International Organisation of Employers (IOE)
  http://www.ioe-emp.org

- International Trade Union Confederation (ITUC)
  http://www.ituc-csi.org

- Public Services International (PSI)
  http://www.world-psi.org

- Education International (EI)
  http://www.ei-ie.org

- The Global Fund to fight AIDS, Tuberculosis and Malaria
  http://www.theglobalfund.org

- UNDP China FAQ's
  http://www.undp.org.cn/modules.php?op=modload&name=News&file=article&catid=34&topic=7&sid=4352&mode=thread&order=0&thold=0

Tobacco and workplace second-hand smoke

1. Introduction

All people have a fundamental right to breathe clean air. However, historically, in the early 1900s, when smoking was banned at work, the prohibition was mainly intended to prevent fires and explosions rather than for health reasons. Later in the century, from the 1950s to the 1980s, bans on smoking at workplaces focused more on the protection of vulnerable workers, mostly in the health care and education sectors. Today, with the growing awareness of the danger of second-hand or environmental tobacco smoke, more and more workers are being protected by legislation and policies that ban smoking at work.

The increasing evidence of the impact on health of exposure to tobacco smoke requires stronger protection of non-smokers, as well smokers from the dangers of tobacco smoke, as there is no safe level of exposure to environmental tobacco smoke. The only option is to promote appropriate smoke-free legislation in public places and workplaces.

Facts about tobacco

- **Tobacco use is a contributing risk factor for six of the eight leading causes of death in the world**, including cardiovascular diseases, cancer, chronic obstructive pulmonary disease (COPD), lower respiratory infections and tuberculosis.
- **Tobacco is a growing epidemic**. In the 20th century, the tobacco epidemic killed 100 million people worldwide. The tobacco epidemic already kills 5.4 million people a year from lung cancer, heart disease and other illness. That number will increase to over 8 million a year in a few decades.
- **Unless urgent action is taken**, tobacco could kill one billion during the 21st century. By 2030, more than 80 per cent of tobacco related deaths will be in developing countries.
- **Exposure to second-hand tobacco smoke (SHS) is a significant health problem around the world.** At least 200,000 workers die every year from exposure, and numerous studies have documented the devastating health impact of exposure in individual countries.

Source: WHO, 2008

A 2005 study published in the British Medical Journal suggests that exposure to tobacco smoke at work may contribute up to one fifth of all deaths from tobacco smoke in the general population aged 20-64 years, and up to half of such deaths among workers in the hospitality industry (Jamrozik, 2005).

The development and implementation of strategies to promote smoke-free workplaces and assist in the cessation of smoking could lead to a considerable reduction in these avoidable deaths. Indeed, 168 countries around the world have ratified the WHO Framework Convention on Tobacco Control (FCTC) in 2010, which legally obliges them to protect their citizens from exposure to second-hand tobacco smoke through appropriate smoke-free legislation that should include workplaces.[1]

As a considerable percentage of the population spend most of their time at work, the workplace can be used to inform and educate workers about the dangers of environmental tobacco smoke. According to the WHO, seven out of ten smokers want to quit and admit that a smoke-free workplace would provide a supportive environment for workers trying to quit.

1 Parties to the WHO Framework Convention on Tobacco Control, 2005.

2. Understanding tobacco use

The health effects of smoking

Tobacco is a plant whose leaves are dried and used in various ways. For the purposes of this chapter we will consider tobacco use in the form of cigarettes and take into consideration other substances that go in to the manufacturing of cigarettes. Smoking is very bad for health and it affects families and colleagues of smokers as well. Half of all smokers die in middle age. Tobacco kills more than AIDS, legal drugs, illegal drugs, road accidents, murder, and suicide together[2].

What are the risks associated with smoking cigarettes?

- diminished or extinguished sense of smell and taste;
- frequent colds;
- smoker's cough;
- gastric ulcers;
- chronic bronchitis;
- increase in heart rate and blood pressure;
- premature and more abundant face wrinkles;
- emphysema;
- heart disease;
- stroke;
- cancer of the mouth, larynx, pharynx, esophagus, lungs, pancreas, cervix, uterus, and bladder.

Although many people smoke because they believe cigarettes calm their nerves, smoking releases epinephrine, a hormone which creates physiological stress to the smoker, rather than relaxation. The addictive quality of the drug makes the user feel he must smoke more to calm down, when in effect the smoking itself is causing the agitation. The use of tobacco is addictive. Most users develop tolerance for nicotine and need greater amounts to produce a desired effect. Smokers become physically and psychologically dependent and will suffer withdrawal symptoms when use is stopped.

Physical withdrawal symptoms include:

- changes in body temperature and heart rate;
- digestion;

2 The tobacco atlas, WHO, 2002. Available at : http://www.who.int/tobacco/resources/publications/tobacco_atlas/en/

- loss of muscle tone;
- changes in appetite.

Psychological symptoms include:

- irritability;
- anxiety;
- sleep disturbances;
- nervousness;
- headaches;
- fatigue;
- nausea;
- cravings for tobacco that can last days, weeks, months, years, or an entire lifetime.[3]

Smoking affects everyone

When a person is in the same room as someone who is smoking, the breathable air is contaminated with second-hand tobacco smoke (SHS), or environmental tobacco smoke (ETS). This is a combination of the smoke from the burning tip of the cigarette and the smoke that is exhaled by the smoker. Being exposed to second-hand tobacco smoke means being exposed to the same toxic gases as if one was actively smoking.

Non-smokers who breathe second-hand smoke suffer many of the same diseases as regular smokers. A passive smoker is therefore at risk of the same cancers, heart and lung diseases as the active smoker.

Second-hand smoke is a complex mix of thousands of chemicals. At least 50 substances in second-hand smoke have been shown to cause cancer[4], that can enter the body through the lungs before being absorbed into the blood stream. Tobacco smoke also contains large quantities of carbon monoxide, a gas that inhibits the blood's ability to carry oxygen to body tissues including vital organs, such as the heart and brain, as well as other substances that contribute to heart disease and stroke.

Why do people smoke?

One reason why so many people smoke, although they know it is dangerous, is that it is very difficult to stop smoking once one has become dependent on the addictive substance in cigarettes: nicotine. Smoking is also part of the cultural heritage in many countries; it is considered "normal" to smoke. Cigarettes are also appealing to many young people, to whom cigarettes are marketed with an image of being grown-up and

[3] Adapted from: *Straight Facts About Drugs and Alcohol*, Copyright © 1996-2010 At Health, Inc. Available at: http://www.athealth.com/Consumer/disorders/Substanceabuse.html

[4] http://www.who.int/mediacentre/factsheets/fs339/en/index.html

"cool". Smoking is also considered by many a way of coping with stressful situations, such as problems at home or an excessive workload.

Women and smoking

An increasing share of smokers in most countries of the world are women. In the countries where women started smoking in the 1950s, for example European countries and North America, cigarettes are still alluring to (especially young) women because of the belief that smoking keeps one thin. In some countries, where until now it has been considered taboo for women to smoke, the cigarette producers promote their products as a symbol of the modern, sophisticated and emancipated woman.

Smoking has particularly bad consequences for pregnant women: smoking during pregnancy can cause low-weight babies. Moreover, it is particularly important to protect women from second-hand tobacco smoke during pregnancy and to inform them of the risks for the unborn baby. Children should also be protected from tobacco smoke, as they are especially sensitive. Asthma and ear infections are two possible consequence of exposure to second-hand tobacco smoke.

Although laws are improving, only a minority of workers worldwide are protected from exposure to second-hand smoke in the workplace. Ironically, the level of carcinogens in an average workplace that allows smoking is much higher than the minimum recommended exposure to those carcinogens from any other source. In many countries, exposure to these levels may contravene occupational health and safety legislation. The primary aim of smoke-free environments legislation is to protect the population (non-smokers and smokers alike) from the serious health harms caused by exposure to second-hand tobacco smoke.

Women and Tobacco: Health Effects and Mortality

- Cigarette smoking kills an estimated 178,000 women in the United States annually. The three leading smoking–related causes of death in women are lung cancer (45,000), heart disease (40,000), and chronic lung disease (42,000).
- Ninety percent of all lung cancer deaths in women smokers are attributable to smoking. Since 1950, lung cancer deaths among women have increased by more than 600 percent. By 1987, lung cancer had surpassed breast cancer as the leading cause of cancer–related deaths in women.
- Women who smoke have an increased risk for other cancers, including cancers of the oral cavity, pharynx, larynx (voice box), esophagus, pancreas, kidney, bladder, and uterine cervix. Women who smoke double their risk for developing coronary heart disease and increase by more than tenfold their likelihood of dying from chronic obstructive pulmonary disease.
- Cigarette smoking increases the risk for infertility, preterm delivery, stillbirth, low birth weight, and sudden infant death syndrome (SIDS).
- Postmenopausal women who smoke have lower bone density than women who never smoked. Women who smoke have an increased risk for hip fracture than never smokers.

Source: Center for Disease Control and Prevention (CDC). Available at: http://www.healthwellnc.com/TUPCHERITAGETOOLKIT/March/1Fact%20Sheets/CDC%20Fact%20Sheet%20Women%20and%20Tobacco.pdf

Why smoking is a workplace issue

In addition to being bad for smoking workers' own health, exposure to tobacco smoke can cause serious illness to workers' families and colleagues. Smoking can also cause fires, explosions and accidents. In some workplaces the issue of smoking causes tension and conflicts between workers and this negative stress is brought from the workplace to workers' families and society. Introducing a smoke-free workplace is a way of demonstrating that the employer cares about the health and well-being of all workers and their families; smokers as well as non-smokers. It also gives a positive signal to clients and the surrounding society.

In the workplace

- In Sweden, smokers take 9.7 more sick days than non-smokers;
- A smoker who takes 9 breaks of 10 minutes each during the working day spends approximately 1 day per week smoking;
- Literature on the psychological impact of smoker/non-smoker interaction concludes that these groups can perceive each other negatively, thus affecting the work performance of both groups.

Source: Lundborg, 2007; Gibson, 1997.

The health hazards of passive smoking make it a health issue at home and at work, especially for people with allergies or asthma, children and pregnant women. Some 40 per cent of children worldwide have at least one smoking parent (WHO Fact sheet, 2010).

A survey in Hong Kong in 1995 showed that out of 5,142 police officers who had never smoked, 22 per cent claimed to be exposed to passive smoking at home and 77.9 per cent at work, while 58.6 per cent were exposed only at work.

A study of 239 asthma patients in Finland who had never smoked carried out in Finland from 1997 to 2000 showed that the risk of asthma increases with the exposure to passive smoking. In a working environment where ten cigarettes are smoked a day, this risk will increase by 44 per cent.

Source: McGhee et al., 2000; Jaakkola et al., 2003.

3. The impact of tobacco use

In a number of countries smoking is on the rise because more people can afford to smoke and because it is becoming more and more popular. The number of smokers is growing less fast in countries with comprehensive non-smoking campaigns. These campaigns often include legal restrictions of smoking in certain places, advertisement bans, awareness campaigns and cigarette taxes.

The number of deaths caused by tobacco is approximately the same in developed and developing countries today, but the number in developing countries is expected to double by 2030.

Although standard cigarettes are the most commonly used type of smoked tobacco, other smoked tobacco products, such as *bidis*, *kreteks* and *shisha*, are gaining popularity – often in the mistaken belief that they are less hazardous to health. However, all forms of tobacco are lethal.

Smokers are not the only ones sickened and killed by tobacco. Second-hand smoke also has serious and often fatal health consequences. As an example, in the United States, second-hand smoke causes about 3,400 lung cancer deaths and 46,000 heart disease deaths a year. Second-hand smoke is responsible in the United States for an estimated 430 cases of sudden infant death syndrome; 24,500 low-birth-weight babies; 71,900 pre-term deliveries and 202,300 episodes of childhood asthma annually. In addition to the health consequences of second-hand smoke, it is also a serious drain on economic resources (California Environmental Protection Agency, 2005). Another example is, in the Hong Kong Special Administrative Region of China, the cost of direct medical care, long-term care and productivity losses due to second-hand smoke exposure is approximately US$156 million annually (Mcghee et al., 2006).

Frequently asked questions about second-hand smoke[5]

What is second-hand smoke?

Second-hand smoke results from the "side-stream" smoke that comes from the burning tip of a cigarette and the "mainstream" smoke that is exhaled by the smoker. Second-hand smoking (SHS), passive smoking, involuntary smoking or exposure to environmental tobacco smoke (ETS) all refer to the phenomena of breathing other people's smoke.

Second-hand smoke is the smoke that individuals breathe when they are located in the same air space as smokers. Second-hand smoke is a mixture of exhaled mainstream smoke from the tobacco user, side-stream smoke emitted from the smoldering tobacco between puffs, contaminants emitted into the air during the puff, and contaminants that

5 All this section is adapted from: *Second-hand smoke kills. Let's clear the air*. World No Tobacco Day, 31 May 2001, Pan American Health Organization/ World Health Organization.
Available at: http://www.paho.org/english/ad/sde/ra/wntd-factsheet1.doc
If a different source is also used it is specified.

diffuse through the cigarette paper and mouth between puffs. It is a complex combination of thousands of chemicals in the form of particles and gases. According to the US Surgeon General Report (2006), at least 250 of the chemicals in SHS are known to be toxic or carcinogenic[6].

It includes irritants and systemic poisons such as hydrogen cyanide, sulphur dioxide, carbon monoxide, ammonia, and formaldehyde. It also contains carcinogens and mutagens such as arsenic, chromium, nitrosamines, and benzo(a)pyrene. Many of the chemicals, such as nicotine, cadmium and carbon monoxide, damage reproductive processes. Second-hand smoke is a major indoor air pollutant. It has been classified by the United States Environmental Protection Agency as a "class A" or human carcinogen for which there is no safe level of exposure.[7]

How does second-hand smoke affect health?

Non-smokers who breathe second-hand smoke suffer many of the same diseases as regular smokers. Deaths from heart disease as well as lung and nasal sinus cancers have been causally associated with second-hand smoke exposure. Second-hand smoke also causes a wide variety of adverse health effects in children including bronchitis and pneumonia, development and exacerbation of asthma, middle ear infections, and "glue ear", which is the most common cause of deafness in children.

Exposure of non-smoking women to second-hand smoke during pregnancy reduces fetal growth, and post-natal exposure of infants to second-hand smoke greatly increases the risk of sudden infant death syndrome (SIDS). Tobacco smoke also causes immediate effects such as eye and nasal irritations, headaches, sore throats, dizziness, nausea, coughs, and respiratory problems.

Second-hand smoke in the workplace

Second-hand smoke also poses a threat in the workplace. Toxins and carcinogens spread quickly throughout offices, hotels, restaurants and other indoor places of work. Most workers are not in a position to change their work environment or leave their jobs to protect their health. In many cases, where smoke-free workplaces are not guaranteed, employees find themselves obliged to spend the majority of their waking hours in a health-threatening situation. In the case of a restaurant employee, the table below shows a selection of chemicals he or she would inhale directly in a 300 square metres area during a single eight hour shift!

6 US Surgeon General (2006). *The health consequences of involuntary exposure to tobacco smoke: a report of the Surgeon General*. Atlanta GA, US Department of Health and Human Services, Centers for Disease Control and Prevention, Coordinating Center for Health Promotion, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health.

7 Environmental Protection Agency: *Setting the Record Straight: Secondhand Smoke is a Preventable Health Risk*. Available at: http://www.epa.gov/smokefree/pubs/strsfs.html

Chemical	Amount (ug)	Chemical	Amount (ug)
carbon monoxide	5606	**benzo[a]pyrene**	**18**
tar	3128	propionaldehyde	17
nicotine	678	resols	15
acetaldehyde	**207**	hydrogen cyanide	14
nitric oxide	190	styrene	13
isoprene	151	butyraldehyde	12
resorcinol	123	**acrylonitrile**	**11**
acetone	121	**crotonaldehyde**	**10**
toluene	66	**cadmium**	**9.7**
formaldehyde	**54**	1-aminonaphthalene	8.5
phenol	44	**chromium**	**7.1**
acrolein	40	**lead**	**6.0**
benzene	**36**	**2-aminonaphtalene**	**5.2**
pyridine	33	**nickel**	**4.2**
1,3-butadiene	**25**	3-aminobiphenyl	2.4
hydroquinone	24	**4-aminobiphenyl**	**1.4**
methyl ethyl ketone	23	**quinoline**	**1.3**
catechol	22		

The chemicals in bold are known carcinogens. Among this list are irritants, mutagens, toxins, and substances that increase blood pressure, promote tumors, affect the central nervous system, damage lungs and cause kidney malfunction.

Whether it is at home, at work, at school, in restaurants, theatres or bars — second-hand smoke is a proven health threat to the young and old, from all walks of life, in all countries.

What is the extent of the problem of second-hand smoke?

Exposure to second-hand smoke is a widespread problem that affects people from all cultures and countries. This exposure occurs throughout ordinary situations in daily life: in homes, at work and school, on playgrounds and public transport, in restaurants and bars—literally everywhere people go.

Surveys conducted around the world confirm widespread exposure. One survey estimated that 79 per cent of Europeans over age 15 were exposed to second-hand smoke. Another estimated that 88 per cent of all non-smokers in the United States were exposed to second-hand smoke. Recent data from South Africa shows that 64 per cent of children below age five in Soweto live with at least one smoker in the house. The

Cancer Society of New Zealand reports that second-hand smoke is the third largest killer in the country, after active smoking and alcohol use.

Are well-ventilated non-smoking sections the answer?

No. Although good ventilation can help reduce the irritability of smoke, it does not eliminate its poisonous components.

When smoking sections share ventilation with non-smoking areas, the smoke is dispersed everywhere. Smoking sections only help protect non-smokers when they are completely enclosed, have a separate ventilation system that goes directly outdoors without re-circulating air in the building, and when employees are not required to pass through them.

So how can we protect people from second-hand smoke?

Governments can legislate and regulate smoking bans in public places, educate people about the dangers of second-hand smoke, and provide support to those who wish to quit smoking.

Employers can initiate and enforce smoking bans in workplaces. Parents can stop smoking in the house and car, particularly around children, and ask others to do the same.

They can also ensure that their children's day-care, school and after-school programmes are smoke-free. Individuals can let their family, friends and co-workers know that they do mind if they smoke near them.

Work with your local organizations to initiate actions on second-hand smoke.

Are smoking restrictions hard to enforce?

Most of the public – even smokers – support smoke-free spaces. Smoking bans in workplaces and public places are successful when people are aware of them. The public should know in advance that smoking bans are being implemented, and they should know the health reasons for smoking bans.

Good education and advance planning lead to self-enforcement and the success of smoking restrictions.

Do smoking restrictions hurt business?

No. Most employers who go smoke-free save money by increasing productivity, lowering maintenance and cleaning costs, and lowering insurance coverage. Studies of sales receipts from restaurants and bars in the US before and after smoking bans have found that sales usually stay the same or go up after a smoking ban.

Then why aren't smoke-free places everywhere?

The tobacco industry spends millions to fund misinformation campaigns on second-hand smoke. Scientists and consultants have been hired to not only confuse the

public about the validity of scientific data, but also to create doubt about the researchers who produce the data and about the science itself. In addition to attacking legitimate studies, bogus research projects that downplay the seriousness of second-hand smoke are funded and promoted.

Tobacco lobbyists and lawyers deflect government regulation of second-hand smoke, and this has been supplemented by huge tobacco contributions to political campaigns. When money and misinformation do not work, the industry promotes false solutions to control second-hand smoke.

Although evidence shows that ventilation is not an effective solution to the problem of second-hand smoke, the industry continues to push for this option, even forming indoor air consulting "front groups" who downplay the risks of second-hand smoke.

A campaign to promote "courtesy of choice" as an alternative to banning smoking in public places has been launched worldwide. This implies that the serious problem of second-hand smoke can be solved by smokers merely asking for permission before they light up, or by having separate smoking and non-smoking sections. Second-hand smoke is thus portrayed as a mere annoyance for non-smokers, rather than a very real health hazard. The industry also funds smokers' rights movements to create so-called independent opposition to smoking bans.

Smokers are not the only ones sickened and killed by tobacco. Second-hand smoke also has serious and often fatal health consequences. As an example, in the United States, second-hand smoke causes about 3,400 lung cancer deaths and 46,000 heart disease deaths a year. Second-hand smoke is responsible in the United States for an estimated 430 cases of sudden infant death syndrome, 24,500 low-birth-weight babies; 71,900 pre-term deliveries, and 202,300 episodes of childhood asthma annually. In addition to the health consequences of second-hand smoke, it is also a serious drain on economic resources (Cal/EPA, 2005). For example, in the Hong Kong Special Administrative Region of China, the cost of direct medical care, long-term care and productivity losses due to second-hand smoke exposure is approximately US$156 million annually (McGhee et al., 2006).

Smoking is costly

Although the prices of cigarettes are increasing in many countries, the majority of smokers are low-income workers or the unemployed. To make this situation worse, smoking is increasing most in the poorer countries and is most prevalent among the very poorest of a country. In Bangladesh the poorest households are found to be twice as likely to smoke compared to the wealthiest ones (McGhee et al., 2006). Additional costs for the smoker include higher medical costs and lower

Minutes of labour worked in selected cities to purchase 20 cigarettes of an international brand

Copenhagen, Denmark	23
Jakarta, Indonesia	62
Mumbai, India	102
Nairobi, Kenya	158
Santiago, Chile	38

Source: Tobacco Atlas, "Cost to the worker."

earnings caused by illness and a shorter productive life. Quitting smoking, or smoking less, can therefore be economical not only for workers and their families, but for society as a whole (Efroymson, 2001).

Smoking is especially dangerous in some jobs

In some occupations, smoking can interact with other dangerous substances, for example: coal, grain, silica, welding materials, asbestos, petrochemicals, aromatic amines, pesticides, cotton dust, and ionising radiation. Asbestos workers or construction workers who smoke are at a much higher risk of getting lung cancer or chronic lung disease than non-smokers.

> An asbestos-worker who smokes is 50 times likelier to risk getting lung cancer than a non-smoking worker not working with asbestos.
>
> *Source: Wallace, 2008.*

Smoking uranium miners and other workers in radioactive environments exposed to radon, run a higher risk of lung cancer than non-smokers. Smoking is furthermore a leading cause of fires and explosions at work, especially where flammable and explosive chemicals are used.

> Fires caused by smoking were responsible for:
>
> - 10 per cent of all fire deaths;
> - a total cost of US$ 27 billion.
>
> *Source: Tobacco Atlas, economic costs*, 2007.

Tobacco products can also cause burns and reduce visibility. Because of its distracting effects when lighting a cigarette, smoking can also be a factor in motor vehicle accidents.

4. Managing tobacco at work

Employers can also save money with a non-smoking workplace strategy. A non-smoking workforce has lower absenteeism, lower maintenance and cleaning costs, lower fire risks, lower health-care costs, lower property insurance costs, as well as lower fire, life and health insurance costs. A smoke-free workplace is also at a lower risk of having to pay workers' compensation payments in cases of disability stemming from exposure to second-hand tobacco smoke.

A survey of 156 workplaces in Scotland in 1996 revealed that the estimated cost of smoking-related absences in Scotland was GBP£ 7 million per year. Total productivity losses were estimated to £827 million per year. In addition there were costs caused by smoking/related fires at approximately £74 million per year, as well as costs related to smoking-related deaths and smoking-related damage to premises.

Source: Parrott et al, 2000.

Assistance programmes

It is important that assistance programmes are in place for all tobacco users who wish to quit. As a manager, one needs to be aware about the assistance programmes available for the organization. The principles of confidentiality and non-discrimination must be maintained.

Is ventilation a solution?

There is no safe level of exposure to second-hand tobacco smoke. Therefore, ventilation cannot be recommended as a solution to the problem. A simpler and lower cost option is to provide outdoor smoking areas. These areas should be made comfortable and safe. Ashtrays, seats, shelter, and perhaps heating could be provided for outdoor smoking areas which should be located away from entrances or windows of the building in order to avoid the smoke from entering the building.

What can be done?

- **Inform and educate:** Awareness is the foundation upon which a strategy dealing with workplace smoking should be built. During a preparatory phase, an assessment of the workers smoking habits and attitudes towards smoking can be useful. During this phase there could also be an awareness campaign about the impact of smoking on workers' health and how everyone will benefit with a non-smoking policy in the work areas. As the strategy develops and is integrated into the workplace policy, all workers should be informed about what changes will take place and what the new policy entails in terms of smoking areas, smoking breaks and, if possible, assistance to those who wish to stop smoking.

- **Introduce a policy of non-smoking in all work areas**: All workers should be protected from second-hand tobacco smoke in the area where they work and other areas where they spend time during working hours such as the canteen, corridors, restrooms, and elevators. Smoking should only be allowed in safe outdoor or indoor smoking areas that are separated and ventilated in such a way that no tobacco smoke can drift into the work areas through entrances, windows, doors, etc.
- **Prevent discrimination**: One way of avoiding that smokers are stigmatized when making a workplace smoke-free is to stress that tobacco smoke and not the smoker is the problem. The change should be presented as a positive development towards better working conditions, not as a negative action against the smokers. Discrimination and stigmatization of smokers during the recruitment process or while employed should not be tolerated. Nor should workers demanding smoke-free workplaces be stigmatized. By including smokers and non-smokers in the development of the non-smoking strategy, to give information about the effects of smoking, and to give support to smokers who wish to quit, tensions between smokers and non-smokers can be reduced.
- **Give encouragement**: A good way of reducing tensions in making the change to a smoke-free environment easier could be to connect the new policy with a positive occurrence; for example smokers could be invited to join a quit-smoking competition. The declaration of a smoke-free company can be made at the same time as an official launch of a new product. Or all workers could be invited for a retreat where non-smoking is promoted. Quitting smoking is easier if one does regular exercise and when not feeling stressed. A non-smoking campaign could be carried out in combination with a more general well-being campaign.

5. Good practices

The international legal framework for countries to create smoke-free workplaces

The **WHO Framework Convention on Tobacco Control,** a multilateral treaty with 171 Parties as of November 2010, is the first step in the global fight against the tobacco epidemic. This treaty represents a blueprint for countries to reduce both the supply of, and demand for, tobacco. The WHO Framework Convention establishes that international law has a vital role in preventing disease and promoting health. Parties to the WHO Framework Convention have committed to protect the health of their populace by joining the fight against the tobacco epidemic.
Article 8 of the Convention states that:

"Each Party shall adopt and implement in areas of existing national jurisdiction, as determined by national law and actively promote at other jurisdictional levels, the adoption and implementation of effective legislative, executive, administrative and/or other measures, providing for protection from exposure to tobacco smoke in indoor workplaces, public transport, indoor public places and, as appropriate, other public places."

Consistent with other provisions of the treaty, the WHO FCTC Conference of Parties (COP) adopted the "**Guidelines on protection from exposure to tobacco smoke**" to assist parties in meeting their obligations under Article 8 of the Convention. These guidelines contain statements of principles and definitions of relevant terms, as well as agreed upon recommendations for the steps required to satisfy the obligations of the Convention. In addition, the guidelines identify the measures necessary to achieve effective protection from the hazards of second-hand tobacco smoke.

The guidelines were agreed based on scientific evidence that has been also presented by the "**WHO Policy Recommendations for protection from exposure to second-hand tobacco smoke.**" In light of the evidence and best practices, WHO recommends that in order to protect workers and the public from exposure to second-hand tobacco smoke the countries should "remove the pollutant (tobacco smoke) by implementing 100 per cent smoke-free environments".

As the WHO FCTC Article 8 Guidelines and WHO policy recommendations clearly state:

- second-hand smoke causes disease, death and ill health in non-smokers;
- effective protection from exposure to tobacco smoke requires the total elimination of tobacco smoke in a given building or area;

- approaches other than the total elimination of tobacco smoke, including ventilation, air filtration and the use of designated smoking areas (whether with separate ventilation systems or not), have repeatedly been shown to be ineffective; and
- legislation requiring the elimination of tobacco smoke, at least in all indoor public places and workplaces, is necessary to ensure universal protection. Voluntary policies are less effective.

Underpinning the WHO policy recommendations and the Article 8 Guidelines are numerous international human rights instruments that protect the right to health, right to life, and the right to a healthy environment, among others.

In addition to protecting health, implementation of smoke-free legislation carries significant ancillary benefits, including reduced economic costs and reduced tobacco use.

Impact of Smoke Free Legislation

Eexamples from different parts of the world with national, state-wide or local smoke-free workplace legislation show that such legislation is feasible to implement, and leads to a significant decline in environmental tobacco smoke exposure of employees both in the short term and long term, compared with situations where there is no or limited voluntary smoking restrictions (Jaakkola; Jaakkola, 2006).

Following the implementation of smoke free legislation in Finland, smokers' attitudes began to change in favour of the smoking restrictions. Evidence suggested that the legislation led to reduced active smoking, which in turn added to the potential public health benefit.

In the Republic of Ireland the introduction of national smoke free legislation paralleled a decrease in respiratory symptoms, with significant reductions in cough and phlegm production. A reduction in the occurrence of red eye and sore throats was also among some of the observations made after the implementation of the legislation.

The State of California in the United States enacted an extensive tobacco control programme in 1998. A study of bar workers was carried out one month before and one month after the programme came into effect and detected a significant reduction in upper respiratory symptoms, in eyes, nose and throat irritation, as well as lower respiratory symptoms, such as wheezing, dyspnoea cough, and phlegm production. In addition to this, an increase in the lungs forced vital capacity (FVC) was observed after the ban had taken effect.[8]

[8] Forced Vital Capacity (FVC) is the volume of air that can forcibly be blown out after full inspiration, measured in litres. FVC is the most basic manoeuvre in spirometry tests.

6. Interrelationships

Smoking and lifestyle

Well-being initiatives that promote regular exercise, a balanced diet, and regular sleeping habits are very beneficial for smokers. A healthier lifestyle reduces stress, which makes it much easier to quit smoking or to smoke less. For persons who exercise, it is also an incentive to smoke less or not at all because of the negative effect of smoking on the lung and heart capacity. A smoker easily loses his or her breath when exercising. The average smoker tends to have other lifestyle factors that could lead to bad health, as the following example from California in the USA suggests:

In a study of 16,534 men and 26,197 women who enrolled in a large health plan in Northern California between 1979 and 1985 showed that the persons most heavily exposed to second-hand tobacco smoke were more likely to be young, of low education levels, consumers of three alcoholic drinks or more, sedentary workers, and those more likely to report exposure to several occupational hazards.

Source: Irribarren et al, 2001.

Addictions and smoking

Studies have shown that those who take up smoking are more likely to take up other drugs. The following study made by the United States' Department of Health and Human Services confirms this theory.

The survey made in 1997/98 showed that among high school senior girls (16 years of age) who had never smoked, only 20 per cent drank alcohol and only 5 per cent had used marijuana, compared to nearly 80 per cent and 40 per cent respectively of current smokers.

Source: U.S. Department of Health and Human Services, 2001.

Drinking and smoking often go hand in hand: at dinner parties, or in pubs or cafés people who smoke only occasionally, so-called "social smokers" or "party smokers", tend to smoke only when drinking alcohol as well. When an enterprise decides to stop serving alcohol in the canteen, this can have a positive effect not only on drinking habits but on smoking habits as well. By eliminating the sale of cigarettes and restricting sales of alcoholic beverages on the work premises, the management shows its commitment to a healthier workforce, as workers are less exposed to the temptation to smoke or consume alcohol and drugs during working hours.

Stress and smoking

Studies have shown that workers who experience stress at work are more likely to smoke and to increase the number of cigarettes smoked. A study of 2,584 men and 2,836 women from 63 different occupations in Sweden illustrates this fact.

> Occupations with a high percentage of night work or shift work, for instance drivers, security guards, and cooks, tend to have a higher number of smokers. Among shiftworkers, smoking could be a way of combating sleep. Night work is sometimes related to passive supervision and smoking could be a way of coping with boring work tasks.
>
> *Source: Knutsson et al, 1998.*

Smoking and stress

Workers experience mainly two types of stress related to workplace smoking. One type comes from the addiction itself, as smokers experience withdrawal symptoms when they have not smoked for a while; the other type of stress is the type of irritation experienced by non-smokers who work in an environment filled with tobacco smoke. These effects can include eye and nose irritation, headaches, sore throat, dizziness, nausea, cough, and respiratory problems. It is also quite common for smokers and/or non-smokers to experience stress because of tensions or conflicts related to smoking; and this brings us to the next issue: smoking and violence.

Smoking and violence

Tension between smokers and non-smokers, coupled with a sense of injustice caused by stigma or discrimination, can lead to aggression. Psychological violence can take the form of harassment and open conflict, but it can also take the form of exclusion and isolation.

7. Policy integration

When a non-smoking strategy is introduced, there are practical as well as psychological aspects to the changes:

- The **practical side** of making the workplace smoke-free: When and where should smoking be allowed? Do workers have access to safe and comfortable smoking areas that do not permit tobacco smoke to drift into areas where people work?
- The **psychological side** of making the workplace smoke-free: Do smokers feel that they are being listened to, or do they feel discriminated against? Is it clear what the non-smoking strategy entails and who is responsible for the enforcement?

Similarly to addressing drugs and alcohol, stress, and other psychosocial issues, there are several issues that could be taken into consideration when smoking is included in a workplace OSH policy, and listed below are the most important elements to include.

- **Risk assessment and risk management**: An assessment could be made of workers' smoking habits, their attitudes to workplaces smoking, as well as an inventory of suitable outdoor smoking areas.
- **Team work, worker involvement, consultation**: The involvement of managers, trade union representatives, and workers is important for all work leading up to decisions about the strategy. This dialogue can prevent conflicts, misunderstandings, and tensions. Smokers can be accommodated by offering them assistance to quit smoking and decent smoking areas. However, the right to work in a smoke-free environment paramounts smokers' claims to smoke. The process of policy-making should also involve the human resources department, because every new employee should know their workspace is a non-smoking work environment. The occupational health services departments have an important role to play in the areas of information, education, and cessation assistance.
- **Information, education, training, and health promotion**: Tensions can be reduced if everyone understands the reason why the enterprise is becoming smoke-free. This understanding can be achieved through regular information to all staff about the policy, and education about the health and safety effects of active and passive smoking. Staff in the human resources departments and medical staff should be trained so that they can assist and inform workers on issues related to smoking.
- **Assistance and treatment**: Workers who feel discriminated against because of their tobacco habit or because they want a smoke-free working environment should receive help from their employer as well as their trade union. Smokers should have access to advice and assistance on how to quit smoking. If that help is not available in-house, a list of external cessation help facilities should be made available.
- **Assignment of responsibility**: When the workplace is made smoke-free, it is helpful to know who is responsible for the practical tasks, such as creating a

smoking area, removing ashtrays, and posting non-smoking signs. It is also important to know the complaints procedure and who is responsible for the enforcement of the policy. All workers should know who to turn to in case of a problem.

- **Ethics and confidentiality in recruitment and selection**: Health records of workers' smoking habits should be confidential, and no worker should be treated differently during recruitment or selection because of their tobacco habit. However, they should be informed that their workplace is a smoke-free one.
- **Management system for continuous improvement**: A working group could make regular assessments of the non-smoking policy. This can be done through measurements of the air quality, anonymous surveys, or by looking into complaints made about smoking. It should be possible for workers to suggest improvements to the policy so that it is continuously improved.

Bibliography

At Health, Inc. 2010. *Straight Facts About Drugs and Alcohol* Available at: http://www.athealth.com/Consumer/disorders/Substanceabuse.html

Brownson, R.C.; Hopkins, D.P.; Wakefield, M.A. 2002. "Effects of Smoking Restrictions in the Workplace" in *Annual Revue of Public Health*, Vol. 23, pp. 333–48.

California Environmental Protection Agency. 2005. *Proposed Identification of Environmental Tobacco Smoke as a Toxic Air Contaminant*. Available at: http://oehha.ca.gov/air/environmental_tobacco/pdf/app32005.pdf

Efroymson, D. et al. 2001. "Hungry for tobacco: An analysis of the economic impact of tobacco consumption on the poor in Bangladesh" in *Tobacco Control*, Vol. 10, No. 3, pp. 212–217.

Fichtenberg, C.M.; Glantz, S.A. 2002. "Effect of smoke-free workplaces on smoking behaviour: systematic review" in *British Medical Journal*, Vol. 325, No. 188.

Gibson, B. 1997. "Smoker – Non Smoker Conflict: Using a social psychological framework to understand a current social controversy" in *Journal of Social Issues*, Vol. 53, No. 1, pp. 97–112.

Häkansta, C. 2004. *Workplace Smoking: A Review of Practical and Regulatory Measures* (Geneva, ILO).

International Bank for Reconstruction and Development. 1999. *Curbing the Epidemic: Governments and the Economics of Tobacco Control* (Washington, D.C., World Bank).

Iribarren, C. et al. 2001. "Exposure to environmental tobacco smoke: association with personal characteristics and self reported health conditions" in *Journal of Epidemiology and Community Health*, Vol. 55, No. 10 (BMJ Publishing Group), pp. 721–728.

Jaakkola, M.S.; et al. 2003. "Environmental Tobacco Smoke and Adult-Onset Asthma: A Population-Based Incident Case-Control Study" in *American Journal of Public Health*, Vol. 93, No.12 (American Public Health Association), pp. 2055–2060.

Jaakkola, M. S.; Jaakkola, J. J. K. 2006. "Impact of smoke free workplace legislation on exposures and health: possibilities for prevention" in *European Respiratory Journal*, Vol. 28, No. 2, pp. 397–408.

- Jamrozik, K. 2005. “Estimate of Deaths attributed to passive smoking among UK adults: database analysis” in *British Medical Journal*, Vol. 330, No. 7495, p. 821.

- Jha, P.; Chaloupka, F. 2000. *Tobacco Control in Developing Countries* (Oxford, United Kingdom, Oxford University Press).

- Knutsson, A.; Nilsson, T. 1998. “Tobacco use and exposure to environmental tobacco smoke in relation to certain work characteristics” in *Scandinavian Journal of Public Health*, Vol. 26, No. 3 (Informa Healthcare), pp. 183–189.

- Lundborg, P. 2007. “Does Smoking Increase Sick Leave? Evidence using register data on Swedish Workers” in *Tobacco Control*, Vol. 16, No. 2, pp. 114–118.

- Mackay, J.; Eriksen, M. 2002. *The Tobacco Atlas* (Geneva, World Health Organization).

- McGhee, S. et al. 2000. “Passive smoking at work: the short-term costs” in *Journal of Epidemiology and Community Health*, Vol. 54, No. 9 (BMJ Publishing Group), pp. 673–676.

- McGhee, S. et al. 2006. “Cost of tobacco related diseases, including passive smoking in Hong Kong” in *Tobacco Control*, Vol. 15, No. 2, pp. 125–130.

- Nurminen, M.M.; Jaakkola, M.S. 2001. “Mortality from Occupational Exposure to Environmental Tobacco Smoke in Finland” in *Journal of Occupational and Environmental Medicine*, Vol. 43, No. 8, pp. 687–693.

- Parrott, S.; Godfrey, C.; Raw, M. 2000. “Costs of employee smoking in the workplace in Scotland” in *Tobacco Control*, Vol. 9 (BMJ Publishing) pp. 187–192.

- Pascale, M.W. et al. 2002. “Exposure to Secondhand Smoke in the Workplace: Serum Cotinine by Occupation” in *Journal of Occupational and Environmental Medicine*, Vol. 44, No. 6, pp. 503–509.

- Wallace, R. B. 2008. *Maxcy-Rosenau-Last Public Health and Preventive Medicine* (McGraw-Hill Medical).

- Warner, K. 2000. “The economics of tobacco: myths and realities” in *Tobacco Control*, Vol. 9 (BMJ Publishing), pp. 78–89.

- World Health Organization. 2004. *Neuroscience of Psychoactive Substance Use and Dependence* (Geneva). Available at: http://www.who.int/substance_abuse/publications/en/Neuroscience_E.pdf

- —. 2008. “Report on the global tobacco epidemic” *The MPOWER package* (Geneva).

- —. 2009. “Report on the Global Tobacco Epidemic” *The MPOWER package* (Geneva) Available at: http://whqlibdoc.who.int/publications/2009/9789241563918_eng_full.pdf

Websites

- Environmental Protection Agency
  Second-hand smoke:
  http://www.epa.gov/smokefree/pubs/strsfs.html

- World Health Organization WHO
  http://www.who.int/tobacco/en/

- WHO's Framework Convention on Tobacco Control
  http://www.who.int/tobacco/framework/final_text/en/

- Tobacco in the workplace: Meeting the challenges. A handbook for employers. WHO Europe (2002)
  http://www.free4ever.info/assets/applets/Tobacco_in_the_Workplace_2002_WHO.pdf

- Documents related to the Framework Convention on Tobacco Control:
  http://whqlibdoc.who.int/publications/2007/9789241563413_eng.pdf

- Smoke-Free Workplaces at a Glance World Bank
  http://www1.worldbank.org/tobacco/

- International Programme on Chemical Safety, IPCS *Environmental Health Criteria 211 Health Effects of Interactions between Tobacco Use and Exposure to other Agents* (1999), www.inchem.org/documents/ehc/ehc/ehc211.htm

- An independent union magazine from Great Britain covering occupational safety and health topics Hazards Magazine
  http://www.hazards.org

- National Occupational Health and Safety Commission, Australia: *Guidance Note on Passive Smoking in the Workplace,* NOHSC: 3019 1994.
  http://www.ashaust.org.au/SF'03/files/NOHSCnote0310.pdf

- National Cancer Institute: Health effects of exposure to environmental tobacco smoke
  http://www.cancercontrol.cancer.gov/tcrb/monographs/10/

- Center for Disease Control (CDC), USA**:** *Making Your Workplace Smokefree. A Decision Maker's Guide*.
  www.cdc.gov/tobacco/research_data/environmental/etsguide.htm

- Food and Agriculture Organization: "Number of Smokers growing - production shifting to developing countries".
  http://www.fao.org/english/newsroom/news/2003/26919-en.html

- Pan American Health Organization / World Health Organization
  http://www.paho.org/english/ad/sde/ra/wntd-factsheet2.pdf

- World Health Organization: Tobacco Atlas. Cost to the Economy
  http://www.who.int/tobacco/en/atlas13.pdf

- World Health Organization: Tobacco Atlas, Cost to the Worker
  http://www.who.int/tobacco/en/atlas14.pdf

- WHO NO Smoking Day. How Second Hand Smoke Harms and Kills Non Smokers
  http://www.paho.org/english/ad/sde/ra/wntd-factsheet2.pdf

- World Health Organization, World No Tobacco Day, 31 May 2010
  http://www.who.int/tobacco/wntd/2010/gender_tobacco/en/index.html

- World Health Organization, Parties to the WHO Framework Convention on Tobacco Control.
  http://www.who.int/fctc/signatories_parties/en/index.html

Nutrition at work

1. Introduction

People's health, their ability to work and play, and their moods are all influenced by the nutrition they provide for their bodies. A worker eating a balanced diet is likely to be healthier and more productive.

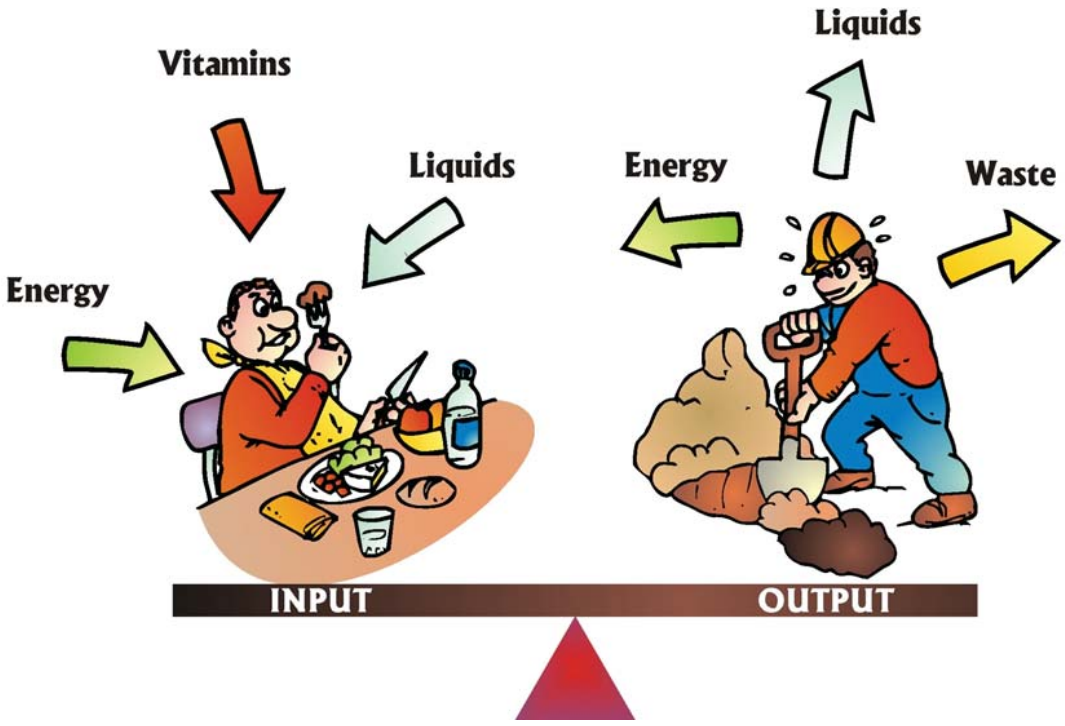
Many people spend a large proportion of their time at work, and most of us need to eat during the working day. As what workers eat may determine how they work, it makes sense for employers to pay attention to adequate access to appropriate food.

Encouraging people to eat healthily can depend on where they are: at home, at work, on the road, but it also depends on the individual. It may also depend on how much money they have and how much time they have to eat. Changing what people eat at work will depend not only on their own attitudes, but also on what is available, for what price, and in what conditions. Changing attitudes to nutrition at work can also lead to changing attitudes at home, improving not only workers' health but community health as well.

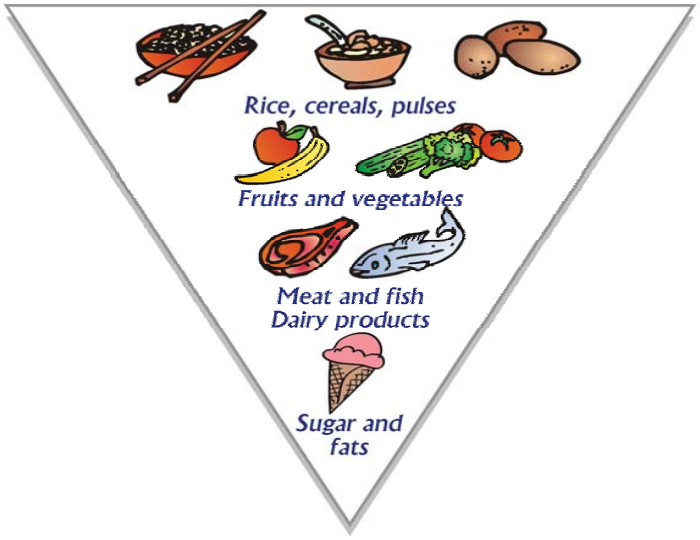
2. Understanding Nutrition

What is balanced nutrition?

People who eat a healthy balanced diet get the right amount of energy and nutrients from their food to live and stay healthy. Like with a car, using good quality fuel in the right amount means the car will work well. Using poor quality fuel and not enough of it will result in damage to the engine and not getting to the destination. With diet, there is an additional danger of using too much "fuel", particularly if it is of poor quality. This can result in obesity and a number of long-term and potentially fatal diseases, such as type 2 diabetes, heart disease and can also contribute to some forms of cancer.



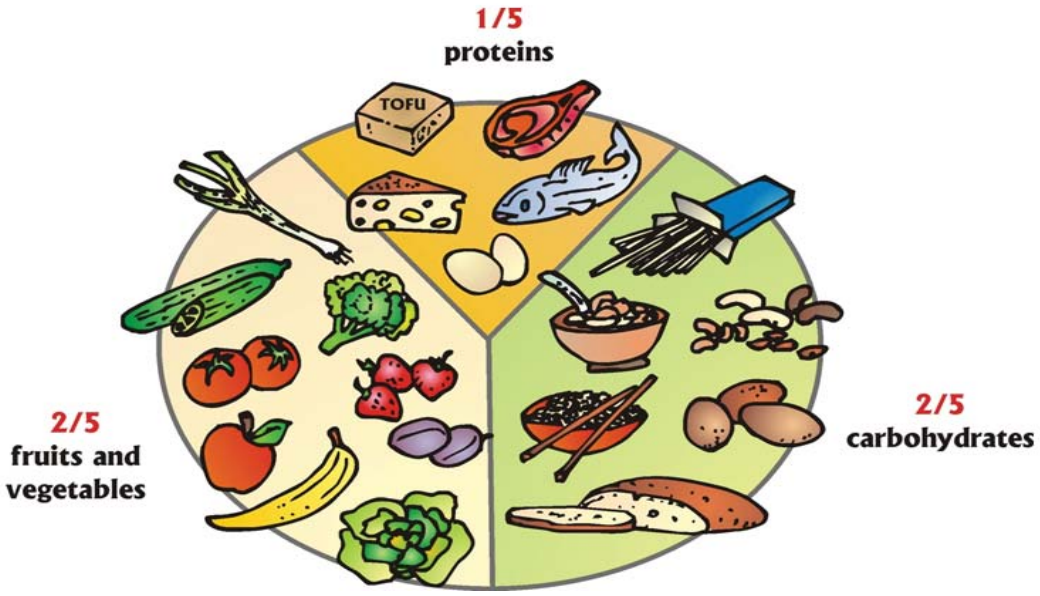
The food triangle is often used to show balanced proportions of the different categories of food. Experts generally agree that eating large quantities of carbohydrates, such as rice, bread, potatoes, and decreasing quantities of the other food groups lower down in the triangle represents a healthy diet. This means, for example, that very small quantities of sugar are needed, in comparison to much larger amounts of fruit and vegetables.



Someone who is eating in these healthy proportions is probably eating the right proportions of macro- and micronutrients. There are four main types of macronutrients: carbohydrates, proteins, fats and oils, and water. Information about these types of food are given in the Macronutrient Fact sheet in Annex II. Macronutrients are found in large amounts in food and have a vital function for healthy living.

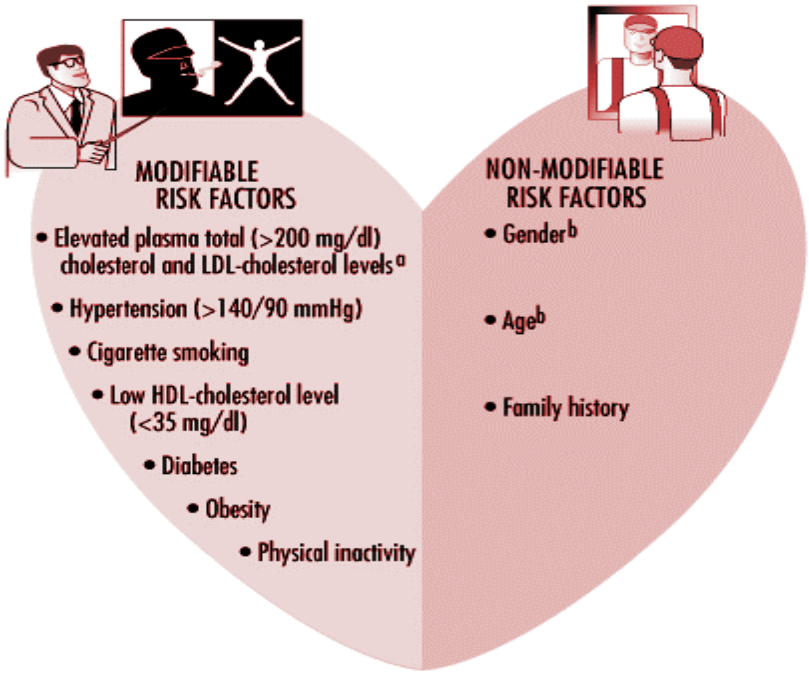
The "healthy" dish

To have a balanced meal, we should remember when we eat to include in our dish all different types of food groups and to combine them in the proportions recommended. As an example, 2/5 of carbohydrates, (e.g., rice, cereals, potatoes); 2/5 fruits and vegetables and 1/5 proteins (e.g., fish, meat, eggs, dairy products) will provide a balanced meal. This way, essential nutrients such as calcium, food fibres or fatty acids as omega-3 are ensured. To keep your body properly hydrated drink 1.5 to 2 litres of water a day.



Adapted from: Société Suisse de Nutrition (SSN). Table de composition nutritionnelle suisse, Office fédéral de la santé publique, Ecole polytechnique fédérale de Zurich, 2009.

Major coronary heart disease risk factors



[a] LDL-cholesterol goal is based on the presence of risk factors and established coronary heart disease (CHD) areas. Goal is: <160 mg/dl without CHD and fewer than two risk factors; <130 mg/dl without CHD and with two or more risk factors; and < 100 mg/dl with CHD.

[b] Both men and women are at risk; however, onset of risk occurs earlier in men. Men are at risk at >45 years of age, whereas risk increases in women at >55 years of age or as a result of early menopause without oestrogen replacement therapy.

Source: National Institutes of Health, National Heart, Lung, and Blood Institute 1993.

Source: ILO Encyclopaedia of Occupational Health and Safety, 1998.

Micronutrients

Micronutrients are found in food in much smaller quantities than the macronutrients. Vitamins, minerals and trace elements are essential for the body to process food and function properly. In total there are thirteen vitamins seven minerals and eleven trace minerals necessary for survival. A table of micronutrients can be found at the end of this chapter in Annex III.

3. Impact

Challenges to balanced nutrition worldwide

Many workers do not eat a balanced diet which often has a serious impact on health and work. The reasons are extremely varied, they can differ considerably from country to country and from region to region.

Quantity of food

With heavy work there may be a need to consume reasonably large quantities of food in order to carry on working practices. However, severe climate conditions and poor levels of development often lead to a lack of food security. In some countries there may not even be enough food to support the population, or incomes are so low in relation to the price of food, that each meal has a significant impact on the family budget. In these cases, poor nutrition reduces people's health and their ability to work.

Quantity of micronutrients

Where food is scarce, micronutrients are also scarce. This often causes malnutrition. Malnutrition from micronutrients results primarily from diets lacking essential vitamins and minerals, such as iron, vitamin A, and zinc. These are found in fresh fruits and vegetables, meat, milk products, and other foods rich in vitamins and minerals. Diets poor in micronutrients cause illness, blindness, premature death, impaired mental development, and susceptibility to infectious diseases, particularly among children in developing countries. It also causes reduced productivity later in life.

Iron

The most common nutritional disorder in the world is iron deficiency. The main symptom of iron deficiency is extreme fatigue, and its negative impact on working capacity can be severe. In addition, iron deficiency in children harms physical and mental development.

IRON DEFICIENCY

The World Health Organization (WHO) estimates that 24.8 per cent of the world's population is iron deficient (WHO, 2008).

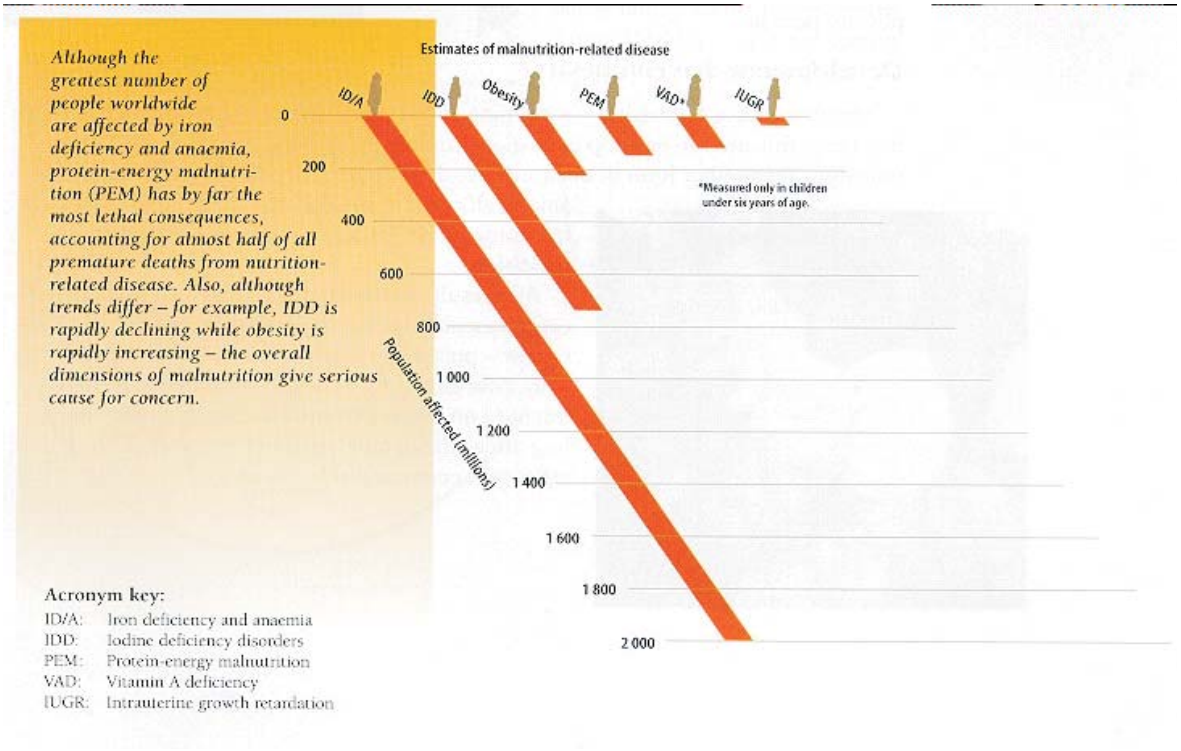
IODINE DEFICIENCY

Nearly two billion people around the world suffer from iodine deficiency, according to the WHO. It manifests itself most frequently in the form of mental impairment, and it is estimated that for 15.8 per cent of the general population, iodine deficiency results in goitre. (WHO, 2004).

Iodine

Iodine deficiency has also a major negative impact on growth and development and on ill-health as an adult. Iodine deficiency can also cause goitre and brain defects in new-born babies, further weakening populations.

Dimensions of malnutrition



Source: WHO, 2000.

The "nutritional transition"

In places where food is more abundant and choice is available, lack of awareness may lead to poor nutrition. People need to know what their body needs, which foods can meet those needs and in which proportions; they should also be aware of the impact on health of an unbalanced diet.

In some countries, as economies grow and urbanization increases, lifestyles are changing. These countries are experiencing a "nutritional transition", moving away from traditional diets to diets which may be more varied but contain more processed food, more animal products, more added sugar and fat, and possibly more alcohol.

- Countries in nutritional transition have a higher risk of nutrition-related diseases.
- Parts of the population may suffer from conditions related to malnutrition such as iron and iodine deficiency.
- Other parts of the population may have made a radical and rapid switch from traditional diets to high-energy high-fat diets, accompanied by a reduction in physical activity. This will probably result in people being overweight or obese with higher risks of high blood pressure and diseases such as type 2 diabetes.
- In these countries some workers may be under-nourished and under-productive, while others are dying before the end of their working life of obesity-related diseases.

Obesity

In industrialized countries people are often aware of the problems poor diet can cause, but because of their lifestyle choice they end up not eating healthy. Choice of food becomes a question of convenience, of habit, of fashion, and in some cases, of income: foods of poor nutritional quality are often cheaper than healthier foods. The combination of high sugar, high fat, low fiber diets, known as energy-dense diets, along with an inactive (or sedentary) lifestyle has resulted in an increasingly overweight population in industrialized countries and countries with economies in transition. The negative consequences for health and for work are immense and are predicted to become worse.

Being overweight or obese could lead to a number of diseases which severely impact on people's health, their ability to work and on national health care systems.

OBESITY

According to the WHO:

- over 1.6 billion adults were overweight in 2005;
- 400 million of them were obese (i.e. extremely overweight);
- ninety per cent of people with diabetes have type 2 diabetes which is closely related to overweight and physical inactivity;
- the number of people with diabetes in 2009 was 220 million;
- twenty-nine per cent of global deaths in 2004 were due to cardiovascular diseases, in other words, 17.1 million deaths;
- eighty-two per cent of those deaths were in developing and low or middle income countries;
- over 1 million people died from diabetes in 2005;
- eighty per cent of those deaths were in developing and low or middle income countries.

Source: WHO Factsheets: "Obesity and overweight", 2006; "Diabetes", 2009; "Cardiovascular disease", 2009.

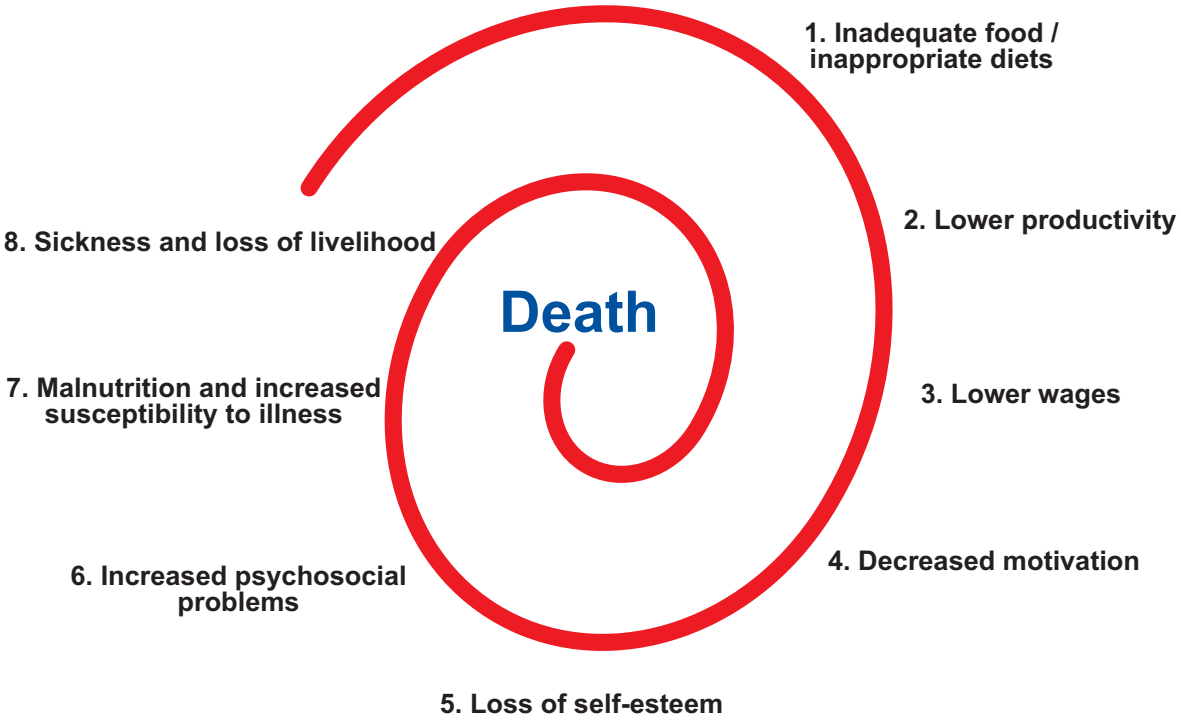
- Type 2 diabetes is a major problem related to obesity. According to the WHO, the countries with the highest number of diabetes patients are India, China, USA, Indonesia, Japan, Pakistan, Russia, Brazil, Italy and Bangladesh.
- Heart disease is also strongly associated with overweight and poor diet.
- Cancer is also related to diet. The WHO suggests that dietary factors contribute to around 30 per cent of all cancers in industrialized countries and up to 20 per cent in developing countries. In all countries tobacco is the main contributing factor to cancer.

Nutrition and work productivity

The health consequences of an imbalanced nutritional intake vary considerably, depending on whether people are eating too much, or too little, or eating the wrong proportions of macro and micronutrients and these all have an impact on work. Nutrition-related impairment and ill-health affect workers' lives, employers see

productivity decrease and governments and society have higher health-care expenses and poorer economic returns.

The following image shows how this happens:



Source: based on a diagram by WHO, 2000.

Inadequate nutrition may lead to an increase of psychosocial hazards, such as stress or violence. For example, tiredness due to lack of iron can make people irritable. The system of the body's defences (or the immune system) suffers nutrition-related diseases. As people become too sick to work, they may even lose their jobs.

Iron deficiency and anaemia can have a severe impact on health and work productivity. A lack of iron means less oxygen is transported in the body and consequently less energy is produced. Iron supplements (for example provided with balanced meals at work) can help to reduce fatigue and increase productivity.

NUTRITION

Results from a study on cereal-growing Ethiopian peasant farmers showed that nutrition affects agricultural productivity. The results also showed a large scope for productivity improvement through better nutrition.

Source: Croppenstedt; Muller, 2000.

Over-eating also results in immense costs to individuals and to employers. The costs are a result of the diseases related to overweight such as diabetes and coronary heart disease.

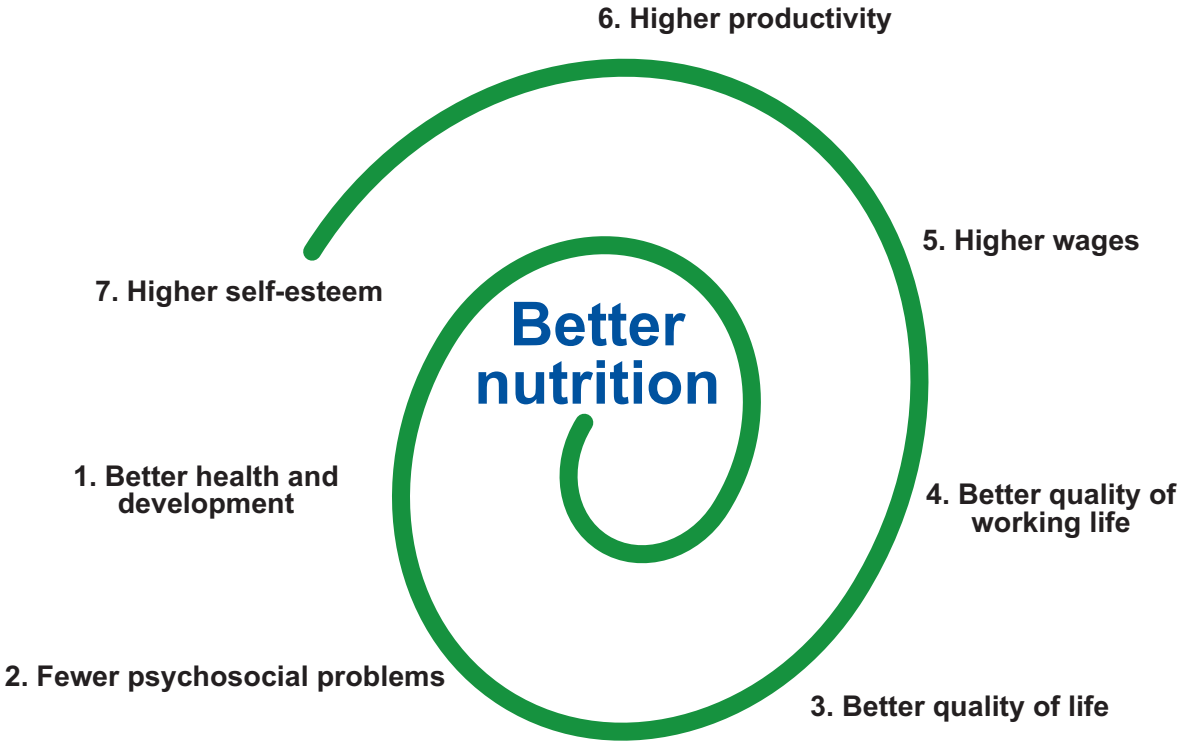
DIABETES

The total estimated cost of diabetes in the U.S.A. in 2007 was US$174 billion, including US$116 billion in excess medical expenditures and US$58 billion in reduced national productivity.

Indirect costs include: increased absenteeism (US$2.6 billion) and reduced productivity while at work (US$20.0 billion) for the employed population, reduced productivity for those not in the labor force (US$0.8 billion), unemployment from disease-related disability (US$7.9 billion), and lost productive capacity due to early mortality (US$26.9 billion).

Source: American Diabetes Association, 2008.

There is a way out of the negative spiral. Changes in lifestyles, such as improving nutrition and exercise habits, as well as reducing alcohol and cigarette consumption can lead to less risk of heart disease and type 2 diabetes as well as improved productivity.



Source: based on a diagram by WHO, 2000.

The benefits are immense for all concerned. For workers, better health means better quality of life and less spending on medications. For employers it means higher productivity and less absenteeism. If employers are bearing some healthcare costs, these are also reduced. For governments, there are fewer burdens on the healthcare system, and the national economy is boosted by higher productivity.

DIET AND EXERCISE

- There were 58 per cent less cases of diabetes as a result of improved lifestyles (eating less fat and more fibre combined with taking more exercise) in a study carried out over 4 years in Finland. (Tuomilehto et al., 2001).
- The WHO estimates that:
  80 per cent of cases of coronary heart disease;
  90 per cent of type 2 diabetes;
  33 per cent of cancers could be prevented by improvements in diet and exercise regimes
  (WHO, 2003a).
- A 20 per cent increase in national productivity can be achieved by reducing iron deficiency (WHO, 2003a).
- Undernutrition has been conservatively estimated to account for a 3 per cent reduction of a countries potential GDP. Where undernutrition occurs at earlier stages in life the cost of lost GDP can be expected to be greater (Haddad, 2002).

Source: ILO Encyclopedia of Occupational Safety and Health, 1998.

4. Managing Nutrition at Work

What can be done?

As everyone benefits from improvements in workers' nutrition, it makes sense for all to contribute to them. Having looked at inadequate nutrition and its impact on the workplace, the following text contains suggestions about what governments, employers, workers and their representatives can do to improve nutrition by workplace measures.

Governments

Governments set the national policy framework for managing nutrition at work. A government which is sending a strong health message, through its health care provision and health promotion activities can create an environment which facilitates positive behavioural change.

The Role of Government.

In the United States it was estimated in 2009, that if Medicare provided nutritional advice and therapy targeted at patients with diabetes and cardiovascular disease, there could be an estimated saving of US$200 million in three years.

Source: The Lewin Group, 2004.

Governments can develop policies to encourage workplaces to improve nutrition. Where food supplements are needed, governments can include workplaces, as well as schools, in order to reach a large proportion of the population. Governments can also provide subsidies for workplace food initiatives. They can also regulate food labelling to ensure that correct, accurate and comprehensive nutritional information is available. The numbers of people reached by such measures can be considerable, and the benefits for the health of workers are also benefits to the economy as productivity improves. Governments can also promote initiatives, such as voucher systems, which are discussed below.

Employers

Employers are in a key position to influence workplace nutrition. Using an integrated OSH policy covering the basic elements common to all areas of health promotion, employers can create a framework for the enterprise which encourages healthy eating, healthy workers and a healthy business.

In some cases, employers can also contribute to food provision at work. By providing food on the premises employers can help to enable workers to eat well, contributing to worker health and productivity.

Employers can implement low-cost solutions, such as food supplements or making healthy food available on the premises and then reap the benefits in productivity.

The provision of food in the work environment can have a number of advantages:

- saves time, as workers do not have to leave the premises to eat;
- improves workers' health, because the employer can choose to provide the right type of nutrition for the workers concerned;
- makes the enterprise a more attractive place to work, which can reduce turnover;
- can benefit community health too.

Trade Unions

Workers knowledgeable about nutritional values are in a position to change eating habits and lead healthier, happier and longer lives. Using the workplace, where workers spend two-thirds of their lives and where they may not have much choice of food, to encourage such changes makes sense for all concerned.

Worker consultation and involvement in OSH policy development and implementation through worker's representatives also contributes to the implementation of health promotion measures. This should help to ensure workers' adequate nutrition.

A trade unions' advocacy role is particularly important concerning nutrition, but also psychosocial factors. Behaviour change begins with awareness on the need for change, awareness on the benefits change would bring for all concerned and awareness of the feasibility of implementing that change on an organizational and an individual level. Trade unions can play a vital role in raising that awareness, particularly if they can do so in collaboration with employers. Trade unions can also be key deliverers of education, training and information about nutrition issues at work. They will be looking after the health of their members.

Working Together

Workers and their representatives should always be involved in the design of policy and its implementation, for example by developing, implementing and evaluating a strategy for food provision. Working together with employers, the following initiatives can be developed:

- initiate canteen improvements;
- set up a kitchen;
- change *ad hoc* food supplies;
- negotiate with mobile vendors;
- move to a voucher system.

In the following section of this chapter, there are examples of case studies from both management and workers' initiatives to improve nutrition at work.

5. Good Practices

Food provision for good nutrition

Companies can complement their policy framework with measures related to food provision for workers. This may range from the basic provision of adequate breaks for workers to have access to food or to full canteen services (restaurant-style) with an emphasis on healthy food.

Case study: Finland

Changing what people eat at work can be an essential part of changing eating habits across the whole community. In Finland, using comprehensive and community-based strategies, it has been possible to change the way people eat and in doing so reduce heart disease. In the early 70s, Finland had particularly high mortality rates of heart disease; the rates for men were the highest in the world.

After a number of awareness-raising campaigns, gradually more and more partners in the community, such as workplaces, schools and health services began to react. They ran information and education campaigns and introduced healthy eating options. As public interest grew, both agriculture and the food industry responded by developing healthier, low-fat foods and marketing them. On this background, policy decisions and legislation, for example on adequate fat and salt labeling of foods, were introduced.

A study on food consumption changes in Finland showed a 75 per cent reduction of the number of deaths from heart disease of the male working-age population.

Source: Puska, 2003.

In many companies the break time may help to determine what kind of food solution is appropriate. Breaks that are too short may mean that workers are not able to rest, eat and recuperate enough energy for the next work period. In order to keep break time to the minimum required but still allow workers enough time to rest, it may be useful to consider some sort of food provision on the premises. This becomes particularly relevant for enterprises which are not located close to any sources of food, such as remote sites far away from towns. It may also be true for enterprises that are on industrial parks or in export processing zones on the outskirts of towns, where workers would have to travel a considerable distance to get food.

There are a number of different options for the provision of food and good nutrition. These include canteens, mess rooms or kitchens, providing snacks at meetings and vending machines, mobile vendors and voucher systems.

Canteens (cafeterias)

A canteen is an onsite facility where food is prepared and sold. The canteen may be purposely built with the necessary equipment installed. In this case, staff are hired by the company to prepare and serve the food, as well as to maintain the premises. Alternatively, an external contractor may be hired to provide the services on-site. The advantages of a canteen are:

- workers save time by eating on-site;
- workers can be provided with the opportunity to eat healthily on a regular basis;
- the employer can subsidize food.

Subsidizing meals has a number of advantages:

- workers eat the food provided which may be healthier and safer than food available outside the worksite;
- for the employer, this is a social benefit and can be regarded as an enticement to employment, which may improve the company's corporate image and the pool of potential job applicants.

An option for smaller enterprises may be to set up a joint canteen. Economies of scale allow a number of companies together, all on the same industrial park or office building, to enjoy the benefits of the canteen without facing high costs.

Canteens have the advantage that there can be some influence on what is available, so healthy eating options can be promoted. Healthy eating may mean simply having enough to eat and consuming adequate amounts of micronutrients, through supplementation, or in other cases by not consuming more energy (in the form of high fat, high sugar foods) than a sedentary lifestyle requires.

Case study: A canteen in Western Africa	
Type of enterprise:	A publicly-owned metal tools factory
Number of workers:	180 workers (149 male, 31 female)
Food solution:	A discounted canteen managed by a committee of union workers accountable to the union.
Length of break:	About 1 hour
Canteen info:	• serves breakfast and lunch, as well as dinner for the night shift; • eight canteen workers; • about half the workers use the canteen; • is approximately 20-150 meters from most workstations.
Food provided:	Traditional local food: • cereals - wheat, barley, maize; • legumes - beans, peas, lentils, chickpeas; • occasionally beef or lamb stews with or without peppers; • vegetables - typically potatoes, tomatoes, kale, onions and garlic.
Cost of meals:	About US$0.23 - which is around 50 per cent less than at local markets, (the canteen operates at a low-profit margin, just enough to cover the wages of the eight canteen workers).
Other nutrition / health related benefits:	Workers receive a half litre of milk, but they have the option of receiving cash instead.
Benefits:	Providing subsidized meals on-site means that workers who may have had no meal have the opportunity get a small meal at work. On salaries that just suffice to cover the basic cost of living, workers tend to save money on food in order to meet other costs. As one worker put it: "I save quite a good amount of money per month by having my lunch at the canteen, and I use the money to cover my bills for electricity and water." *Source: based on Wanjek, 2005.*

Mess rooms or kitchens

Another option for medium sized and small enterprises is a mess room or a kitchen. Depending on resources and needs, a kitchen can be as basic or as elaborate as required. Many of the additional options can either be provided by the employer or by workers themselves. For example workers can take turns at cleaning the kitchen, or the enterprise can expand its cleaning service to cover the kitchen. Also kitchen appliances and furniture may be second-hand from workers' own homes, or the enterprise may be able to make a small investment.

How much is needed for a kitchen?	
BASIC:	• a room with a water supply away from people's work stations; • workers eat food brought with them.
CLASSIC:	• provide furniture; • provide kitchen appliances (refrigerator, microwave); • provide a cleaning service.
DELUXE:	• provide food provisions, such as fruit or tea and milk; • invite a local food vendor to bring pre-prepared food to sell in the mess room.

Having a mess room has a number of advantages:

- workers remain on-site, leaving more break-time for resting;
- low-cost options for encouraging healthy eating are open to the employer or the workers representatives, such as providing free fruit or nutritious snacks;
- the mess room can be the focal point for information and education about nutrition – contribution to improving community health too.

However, not all mess rooms necessarily ensure that workers eat healthy. The food brought from home or bought on the way to work may not constitute a balanced diet. In this case, more emphasis should be placed on information and education.

Case study: A mess room in North America	
Type of enterprise:	An electronics company on four separate sites.
Number of workers:	Altogether 158 workers.
Food solution:	At each site there is a mess room containing tables, chairs, microwave ovens, refrigerators and sinks.
Length of break:	Half an hour.
Mess room info:	• The largest mess room is connected to a recreational area with a ping-pong table, a billiard table, and a fitness area; • the mess rooms are cleaned regularly by a cleaning service; • is located on site.
Food provided:	• Most workers bring their lunches or purchase meals from vending trucks that visit during breaks; • the vending trucks offer healthy choices, such as chicken over rice, vegetable burritos, fruit, yogurt and sandwiches such as turkey and tuna, for which there is much demand in the company.
Cost of meals:	• Reasonable prices relative to salaries.
Other nutrition / health related benefits:	A wellness program to provide an atmosphere conducive to changing behaviours for the better: • food educational activities in the mess rooms; • a program to encourage workers to eat a variety of fruits and vegetables, including free fruit every Monday morning for participants, along with a weekly draw for a US$25 gift certificate at local healthy eating establishments, for participants who complete their food diaries. • the company employs a "Wellness Coordinator"; • The pleasant mess room dining areas encourage workers to eat in, which tends to be healthier than visiting nearby restaurants. Convenience is also a factor, as workers only have 30 minutes for lunch. *Source: based on Wanjek 2005.*

Snacks at meetings and vending machines

There are a variety of other ways in which the workplace can serve as a setting to influence people's eating habits. For example, snacks provided at meetings, or vending machines are a low-cost way of making food available to workers. In paying attention to health and healthy eating, it makes sense to ensure that the snacks and foods in vending machines meet the dietary needs of the workers.

In some areas, this means replacing soft drinks with high-sugar content, serving water and fruit juices instead, and serving high-grain content snacks, rather than biscuits made from refined white flour and with a high sugar content at meetings. At the end of this chapter there is a list of healthy substitutes for snacks at work.

Vending machines do not have to contain high-sugar, high-fat snacks, as healthy foods can have a long shelf-life too. Vending machines can also serve hot soups and have the capacity to keep meals hot for hours, increasing the convenience and availability of hot meals, both of which is particularly useful for shift workers. Vending machine meals are less expensive to serve than canteen meals, because staff need not be present. Enterprises which cannot afford a full canteen could indeed opt for a vending machine as one of the main mechanism for worker meal provision.

Combined with the other policy options such as education, information and health promotion, making a change in the *ad hoc* food provision can be a useful way to promote good nutrition and encourage workers to change their eating habits.

Mobile vendors

Many workplaces' contribution to workers' nutrition consists of providing access to mobile food vendors. A supplier of sandwiches may be granted the right to get in the premises to sell food. Alternatively, the employer may negotiate supplying water or electricity to street vendors in order to ensure that food safety concerns are met and that their workers are not out sick with food poisoning. In negotiating with a supplier, there is the opportunity of ensuring that the food provided is not just clean and safe in the short term, but healthy in the long term both in terms of adequate micronutrient content or appropriate energy supply.

Case study: Farmers' markets in North America	
Type of enterprise:	A health-care organization
Number of workers:	Over 54,300
Food solution:	Set up farmers' markets outside three of its facilities
Length of break:	At least half an hour
Market info:	• Local farmers set up stalls in front of the organization's facilities every Friday; • small enough to fit into a space available in front of the facility (pavement, car park); • close to the building for convenience; • around two thirds of the staff use the market, according to estimates; • local people use the markets too.
Food provided:	• Local fruits, vegetables, breads and flowers which are often fresher than supermarket goods.
Cost of meals:	• Reasonable prices relative to salaries.
Other nutrition / health related benefits:	The organization runs a number of health promotion activities: • concerted efforts are being made to reduce or replace unhealthy foods at staff meetings, working with local vendors and respecting workers' wishes; • some canteens are introducing healthy options and labeling them as such; some post the calorie content of meals; others are reducing portion sizes; • the organization runs a physical activity and weight management programme.
Benefits:	• Access to fresh fruit and vegetables is improved for workers and locals; • in combination with the other health promotion activities, use of the market is high; • minimal cost to the organization. *Source: based on Wanjek, 2005.*

Vouchers

Employers can consider the option of meal vouchers. Voucher systems involve employers providing workers with coupons, or slips of paper entitling them to food up to the stated value at certain suppliers. The advantage to the employer is that a certain amount of money will be dedicated to food and potentially to health improvement. The advantage to the worker is that the voucher may be supplied in

addition to the salary. Vouchers may be seen as an advantage for locally participating restaurant because they provide them with an almost guaranteed customer base, encouraging the creation of new businesses. They can also stabilize meal prices, due to competition between rival restaurants, often locked around the value of the voucher.

Case study: Vouchers in Latin America	
Number of workers:	About 30 per cent of 30 million workers in the formal sector.
Food solution:	Government-run voucher system.
Voucher info:	• Meal vouchers are distributed to lower-wage workers first in companies with limited budget; • mostly paper, but increasingly magnetic card vouchers are in use; • often part of collective bargaining agreements; • over 200,000 restaurant and food outlets accept vouchers.
Food provided:	• Each voucher paid meal must be at least 1,400 kilocalories for most occupations. • 1,200 kilocalories for non-strenuous labour; • 300 kilocalories for breakfast; • protein quality and quantity must at least be equivalent to that in a plate of rice and beans; • food outlets must offer ready-made meals and respect a standard of hygiene set by the health department.
Cost of meals:	• The worker's contribution cannot exceed 20 per cent of the face value of the voucher.
Other nutrition / health related benefits:	The voucher programme is part of the larger Worker Alimentation Programme which was established in 1976. Its primary goal was to provide food to low-wage workers, those making up to five times the minimum wage. Today the programme reaches 40 per cent more companies than in its first year, testifying to its success.
Benefits:	• Over 60 per cent of the workers who participate in the PAT earn less than five times the minimum wage, the government's targeted income bracket; • the number of restaurants in the country has grown from 320,000 in the 1980s to 756,000 in 1997. *Source: based on Wanjek, 2005.*

In most schemes, restaurants are not permitted to give change for vouchers, so workers are encouraged to eat to the full value of the voucher, or the vouchers may even specify that a given calorific value must be met. Giving workers' vouchers which are only valid for meals rather than money also ensures that hard-earned wages are spent on quality food, providing a health benefit. In some schemes, vouchers are provided also for shops, where certain quality foodstuffs can be bought, thus providing a community health benefit. Alcohol and tobacco products should be excluded from voucher systems.

Personal lifestyle

While employers and trade unions need to create the right framework of what is available in terms of nutrition, in the long run it is up to the individual to either eat healthy or not. People need first of all to know what constitutes a healthy diet. Annex I includes food pyramids from different regions in the world, reflecting cultural preferences in food, but respecting the nutritional needs of all human beings.

6. Interrelationships

Links with psychosocial factors

Psychosocial hazards rarely occur in isolation. In fact, risk behaviours, like smoking, drinking, eating junk food, and lack of exercise, tend to cluster. Changes in the workplace to reduce any one of these behaviours (or ideally all at once) could reduce the occurrence of the multiple unhealthy lifestyle behaviours and significantly improve the health and productivity of the workforce.

Nutrition and stress

When people are stressed, they eat differently. What we eat and how often we eat seems to be affected. Some people tend to consume healthy foods during positive emotions and to prefer junk food during negative emotions. When some people are angry, they eat more impulsively and consequently eat fast, irregularly and carelessly. Food which is available at irregular intervals (rather than at set meal times), and can be eaten quickly would tend to be junk food. However, when people are happy, there is often more eating for pleasure, which could in fact include both high-fat foods and foods eaten for their health value.

Nutrition and alcohol and drugs

Drinking alcoholic beverages increases appetite. Typically binge drinking is accompanied by the consumption of junk food to meet that extra hunger. So not just the quantity but the quality of what drinkers eat is problematic. As far as other drugs are concerned, it is well known that consumption of marijuana produces feelings of hunger. Food taken at irregular times and immediately available is more likely to be junk food. Users of hard drugs more often are underweight, typically a physiological consequence of drug use, as well as a result of spending money on drugs rather than food.

> In a study in the United Kingdom, participants who drank 4 units of alcohol ate 17 per cent more those who did not drink any alcohol, but felt similar levels of fullness after the meal. They also did not consume less energy to compensate for the energy in the alcoholic drink itself.
>
> *Source: Caton et al., 2004.*

Nutrition and smoking

Many smokers, particularly women, claim that smoking suppresses appetite and helps them to lose weight. There is little evidence to suggest that smoking reduces caloric intake. In fact, there is little difference in how many calories are consumed by smokers and non-smokers. What smokers observe is a tendency to eat more calories and therefore gain weight in the first few weeks after stopping smoking. This trend however

falls off if non-smoking is maintained. Nevertheless some smokers come to the false conclusion that smoking keeps them thin.

Nutrition and HIV and AIDS

With a virus affecting the immune system like HIV, improved diet can slow down the progression of HIV and AIDS. People with HIV need to take specific combinations of vitamin supplements, because the HIV retrovirus and HIV medicines can use up some nutrients, particularly B vitamins, magnesium and zinc.

Nutrition and exercise

It goes without saying that eating a healthy diet is only half of the story when it comes to achieving and maintaining a healthy weight. Without appropriate exercise, efforts to manage nutrition are unlikely to bear fruit. If an enterprise addresses nutrition as part of its health promotion activities, they must also address exercise or other physical activity for health to have a good chance of success.

7. Policy integration

Employers and workers acting together

There are a number of solutions to good worker nutrition which can often best be implemented by employers and worker representatives working together. An appropriate, integrated policy addressing all areas of health promotion and occupational safety and health needs to be developed using social dialogue between management and workers. Equally, the resulting decisions on workplace food provision can best meet everybody's requirements if they are the result of social dialogue. The remainder of this section outlines possible policy and food provision solutions that employers and workers can implement together to improve workplace nutrition.

Policy elements for good nutrition

Nutrition issues at the workplace can be addressed using a risk assessment and risk management approach. The risk of reduced productivity either due to high absenteeism or due to lack of energy while at work, or both, can be managed by a combination of measures. To assess the risk, a degree of monitoring of the situation is necessary, including what workers are eating and how much of the productivity problems faced by the enterprise can be attributed to workers' nutrition. In conducting this assessment, confidentiality is obviously a key issue to avoid discrimination, and should be anchored in enterprise policy too.

As psychosocial problems tend to cluster, it may be difficult to treat nutrition separately as the cause of productivity losses. The company should develop and implement a health promotion programme which would encourage workers to improve not just their nutrition, but also encourage exercise and to promote measures to stop or reduce smoking and alcohol consumption.

By encouraging improvements in worker health, the company is also contributing to its social responsibility, as healthier worker means a healthier community.

The means for achieving this improvement in worker health should also be embodied in company policy:

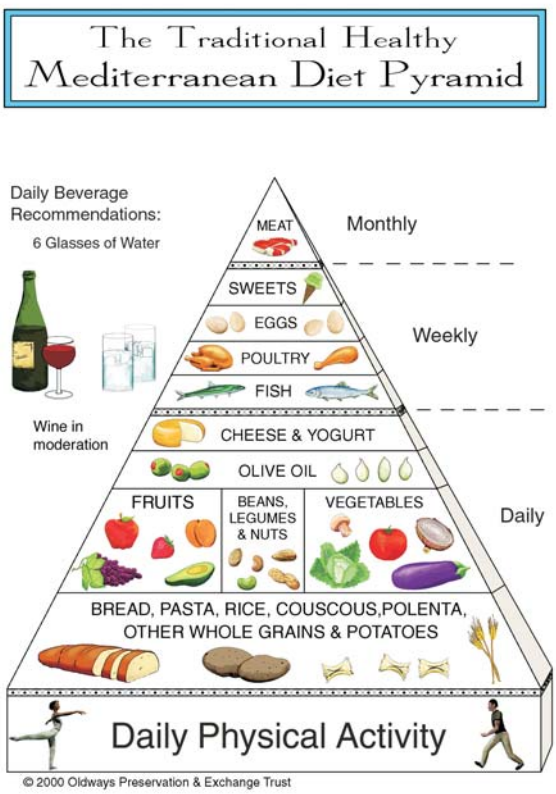
- Information, education and training contribute to raising awareness of the need for action and what can be done.

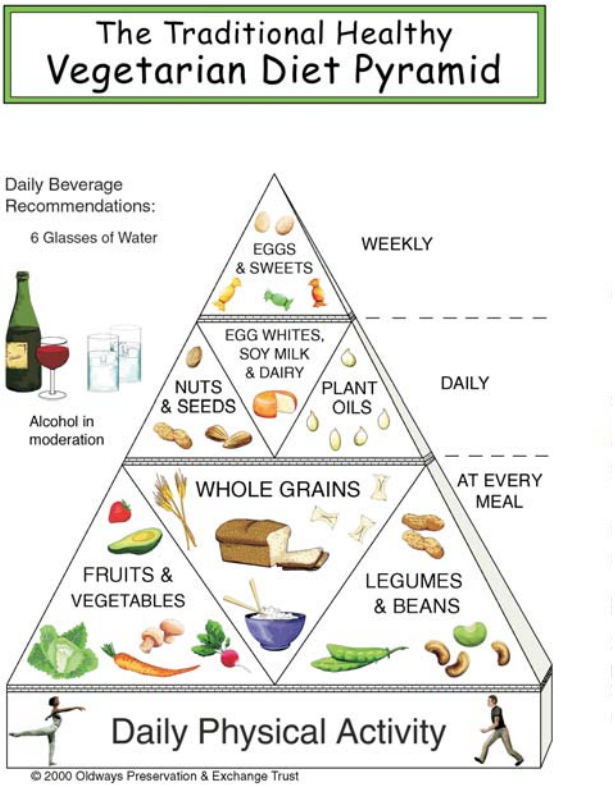
- The provision of assistance or treatment, for example by the occupational physician, or a system of referrals to community health services for people who already have health problems related to nutrition can all help to improve worker health and reduce productivity losses in the long term. Again the question of confidentiality arises here, which should in any case be an integral part of company policy.
- In building the policy consultation with workers is essential to establish that the needs of both workers and management are being met and that they are working towards the same goals. Without buy-in from both parties, the programme is less likely to work.
- Worker involvement should be continuous to assure that policy is implemented smoothly.

Annex I

Guidelines for a sound weight-reduction programme

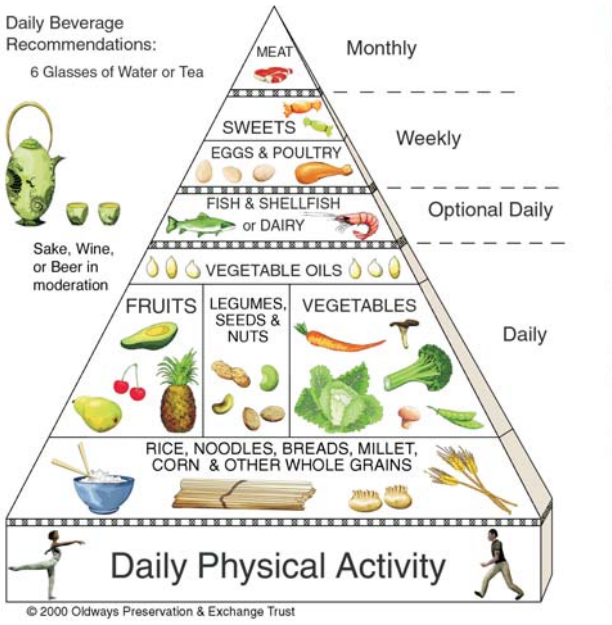
In some areas of the world, weight reduction is an important part of improving nutrition. The guidelines below are taken from the ILO Encyclopedia of Occupational Safety and Health. They include some important points about how to keep going with a diet. For example, reducing calories (eating a hypocaloric diet) still needs to make the person feel full (provide satiety), or else one is likely to give up. It is also very important that a low calorie diet still provides the nutritional balance described in this chapter.





The Traditional Healthy Latin American Diet Pyramid

The Traditional Healthy Asian Diet Pyramid



Annex II

Macronutrients fact sheet

Carbohydrates are the main source of energy in most diets.	Carbohydrates include *sugars* (or simple carbohydrates), and **complex carbohydrates** such as rice, cereals and pulses. **Starches and fibres** are also complex carbohydrates, crucial for digestion and slower sugar absorption.

Foods that are high in carbohydrates:

Types of food	Types of carbohydrates
Sugar, honey	Simple carbohydrates
Rice, beans, cereals, potatoes	Complex carbohydrates, including …
Some fruits, whole-grain cereals	… starches and fibres

Proteins are needed to grow and maintain muscles, bones, skin and organs.	High quality proteins are found in **animal products**, particularly meat, but also milk and eggs. However, animal products can conceal other dangers (e.g. animal fat is not as good for you as vegetable fats and oils), so balance is the key. **Vegetable proteins** are generally not of such high quality as animal proteins, so vegetarians or people with limited access to animal products need to eat more protein than meat-eaters.

Foods that are high in protein:

Types of food	Types of protein
Meat, milk, eggs, fish	High quality animal proteins
Green leaf vegetables, legumes, particularly soy beans	Lower quality vegetable proteins

Water is always necessary and essential for survival.	**Water** is also considered a macronutrient. It is found in both food and drinks. The body loses water naturally through breath, sweat and urine. So we need to drink water to replace what is lost.

Fats and oils, or fatty acids help regulate blood pressure, blood clotting and inflammation and are needed for healthy skin and hair.	Consuming some fat is important for health, but eating too much fats and oils contributes to becoming overweight and to heart disease. There are two types of fats: saturated fats found in high cholesterol foods and unsaturated fats found in marine food and most vegetable oils.

Foods containing different types of fat:

Types of Food	Types of fat
Butter, cheese, whole milk, fatty cuts of beef and pork, but also in coconut oil, palm and palm-kernel oils	Saturated fats: should be limited
Marine food and vegetable oils.	Unsaturated fats: OK in small quantities.

Fats, heart diseases and strokes	**Saturated** fats should be limited because they raise cholesterol levels. Cholesterol is a type of fat normally found in the blood which is healthy in the right amounts, but when there is too much it can narrow the arteries and lead to heart diseases and strokes. **Unsaturated** fats are healthy if eaten in small quantities. Unsaturated fats include: • polyunsaturated fats, which lower the levels of "bad" cholesterol (LDL) • monounsaturated ones which raise the levels of "good" cholesterol (HDL).
Major coronary heart disease risk factors	• There are a number of things that make it more likely that someone will have a heart disease. These risk factors are listed in the diagram below. • Some risk factors can be influenced by diet and lifestyle. These include high levels of "bad" cholesterol (LDL), low levels of "good" cholesterol (HDL) and high blood pressure (hypertension). • Other risk factors, such as age, gender and family history, can't be changed, but through awareness of the risk they can be managed.

Source: based on Wanjek, 2005.

Annex III

Micronutrients vitamin and mineral fact sheets

Vitamin	Found in	Good for	Lack of leads to
Vitamin A	butter, butterfat in milk, egg yolks, some fruits (prunes, pineapples, oranges, limes, cantaloupe melons), green leafy vegetables and carrots.	growth, good skin, healthy teeth, bone development.	night blindness infection of: parts of the eye, windpipe, hair follicles, renal system.
Vitamin B1 (thiamine)	whole grains, nuts, egg yolk, fruits, and most vegetables.	growth, appetite, how carbohydrates are processed by the body.	thiamine deficiency is rare, although alcoholics can tend to be lacking in thiamine; can cause difficulty in breathing, a loss of mental alertness and heart damage.
Vitamin B2 (riboflavin)	liver, meat, poultry, eggs, milk, and green vegetables.	growth, ability of cells to take in food, make energy and discard waste.	fatigue, slowed growth, digestive problems.
Vitamin B6 (niacin)	liver, meat, poultry, and green vegetables.	ridding the body of toxic and harmful chemicals, improving circulation and reducing cholesterol levels in the blood.	indigestion, fatigue, depression, dermatitis, diarrhoea, dementia, and death.
Vitamin B9 (folic acid)	spinach, dark leafy greens, asparagus, turnip, beet and mustard greens, Brussels sprouts, lima beans, soybeans, beef liver, brewer's yeast, root vegetables, whole grains, wheat germ, bulgur wheat, kidney beans, white beans, lima beans, mung beans, oysters, salmon, orange juice, avocados, and milk.	is crucial for proper brain function and plays an important role in mental and emotional health, aids in the production of DNA and RNA, the body's genetic material, and is especially important during periods of high growth, such as infancy, adolescence and pregnancy.	the most common B vitamin deficiency; can cause poor growth, tongue inflammation, gingivitis, loss of appetite, shortness of breath, diarrhoea, irritability, forgetfulness, and mental sluggishness; alcoholism contributes to deficiency of this important nutrient.

Vitamin	Found in	Good for	Lack of leads to
Vitamin B12 (cyanocobalamin)	leafy green vegetables, organ meats, lean beef and veal, eggs and wheat cereals.	is an especially important vitamin for maintaining healthy nerve cells and it aids in the production of DNA and RNA, the body's genetic material.	fatigue, shortness of breath, diarrhoea, nervousness, pernicious anaemia and neurological problems, including numbness and weakness.
Vitamin C	oranges, green peppers, watermelons, papaya, grapefruit, cantaloupes, strawberries, kiwis, mangos, broccoli, tomatoes, Brussels sprouts, cauliflower, cabbage, and citrus juices; raw and cooked leafy greens (turnip greens, spinach), red and green peppers, canned and fresh tomatoes, potatoes, winter squash, raspberries, blueberries, cranberries and pineapple.	growth and repair of tissues in all parts of the body; healing wounds, repair and maintenance of cartilage, bones, and teeth.	dry and splitting hair; gingivitis (inflammation of the gums) and bleeding gums; rough, dry, scaly skin; decreased wound-healing rate, easy bruising; nosebleeds; weakened enamel of the teeth; swollen and painful joints; anaemia; decreased ability to ward off infection.
Vitamin D	vitamin D is manufactured in the skin with exposure to sunlight; also found in milk, cod liver oil, salmon, egg yolks, and butter fat.	development of bones and teeth.	rickets and tooth decay.
Vitamin E	wheat germ, corn, nuts, seeds, olives, spinach, asparagus, and other green leafy vegetables, vegetable oils (corn, sunflower, soybean, and cottonseed), and products made from them such as margarine.	healing of scars.	deficiency is extremely rare.
Vitamin K	fats, oats, wheat, rye, alfalfa, cabbage, cauliflower, spinach, and other green leafy vegetables, cereals, soybean, and other vegetables.	blood clotting.	deficiency is very rare.

Mineral	Found in	Good for	Lack of leads to
Chromium	meat, nuts, mushrooms, prunes, unrefined foods, fats and vegetable oils.	maintenance of normal blood sugar levels.	increased cholesterol levels and increased risk of diabetes and heart disease.
Copper	meat, poultry, seafood, tofu, nuts and seeds.	production of red blood cells and the formation of connective tissues; defence against free radicals.	low body temperature, bone fracture and osteoporosis, irregular heart beat.
Fluorine	water (in some areas), seafood, kidney, liver, and other meats.	maintains the structure of teeth.	acidic decay of teeth.
Iodine	shellfish, white deep-water fish, and brown seaweed kelp, garlic, lima beans, sesame seeds, soybeans, spinach, Swiss chard, summer squash, and turnip greens.	normal growth and development.	low thyroid hormone levels, seen as sluggishness, weight gain, and sensitivity to temperature changes; also poor growth and mental development in children.
Iron	liver and other organ meats, lean red meat, poultry, fish, and shellfish (easy sources); other sources: dried beans and peas, legumes, nuts and seeds, whole grains, dark molasses, and green leafy vegetables **if** accompanied by vitamin C for proper iron absorption.	delivering oxygen to the body.	anaemia, the most common symptoms of which are weakness and fatigue.
Manganese	whole grains and cereals, fruits, and vegetables.	activator of many enzymes, is also necessary for normal brain and nerve function.	infertility, bone malformation, weakness.
Selenium	broccoli, chicken, cucumbers, egg yolk, garlic, liver, milk, mushrooms, onions, seafood, and tuna.	is needed for the proper functioning of the immune system,and protecting the lipids of cell membranes (cell walls are made up of a lipid (fat) layer), proteins, and nucleic acids against oxidant damage.	premature aging (tobacco and alcohol consumption lowers selenium level).

Mineral	Found in	Good for	Lack of leads to
Zinc	meats, oysters and other seafood, milk, and egg yolk.	growth; processing protein, DNA and RNA.	loss of appetite, poor growth, weight loss, impaired taste or smell, poor wound healing, skin abnormalities (such as acne, atopic dermatitis and psoriasis), hair loss, lack of menstrual period, night blindness. (low zinc intake is often seen in the elderly, alcoholics, people with anorexia, and individuals on restrictive weight loss diets).

Annex IV

LIST OF SUBSTITUTE HEALTHY FOOD

Here is a list of the kinds of changes that can be made in the *ad hoc* food provision to reduce saturated fat and calories.

CHOOSE...	INSTEAD OF...
For Beverages	
bottled water (filtered, mineral, flavoured without sugar,) teas, coffee, or 100 per cent fruit and vegetable juices	soda pop or fruit-flavoured drinks
low-fat or skim milk	whole milk or cream
For Breakfasts	
fresh fruit, dried fruits, unsweetened juices	sweetened canned fruit and fruit drinks
low-fat yogurt (plain with fresh fruit)	regular yogurt (pre-sweetened)
small bagels, smaller than 3.5 inches (9 cm)	regular bagels, 4.5 inches (12 cm)
small or mini-muffins, 2.5 inches (6.5 cm)	regular muffins
low-fat granola bars	croissants, doughnuts, sweet rolls, pastries
light margarine, low-fat cream cheese, natural jams or fruit spreads	butter, regular cream cheese
unsweetened or low-sugar cereals	sweetened cereals
whole-grain waffles, French toast	regular (white flour) waffles or French toast
lean ham or turkey bacon, vegetarian sausages or bacon substitutes	bacon or sausage
For Lunch or Dinners	
salads with dressings on the side	salads with added dressing
low-fat, fat-free dressings, flavourful vinegars or extra virgin olive oil	regular salad dressing
soups made with vegetable puree or skim milk	soups made with cream or half-and-half
For Lunch or Dinners	
pasta salads with low-fat dressing	pasta salad with mayonnaise or cream dressing
sandwiches on whole grain breads	sandwiches on croissants or white bread

CHOOSE...	INSTEAD OF...
For Lunch or Dinners	
lean meats, skinless poultry, fish, tofu	high-fat and fried meats, bacon, poultry with skin, cold cuts, oil-packed fish
steamed vegetables	vegetables fried or cooked in cream or butter
whole-grain bread or rolls	croissants or white bread
margarine without trans-fatty acids	butter
low-fat, low-calories desserts, such as fresh fruit, low-fat ice cream, low-fat frozen yogurt, sherbet, sorbet, angel food cake with fruit topping	high-fat, high-calorie desserts, such as ice cream, cheese cake, pies, cream puffs, and large slices of cake
For Receptions	
cut fresh vegetables or "baby" vegetables served with low-fat dressing, salsa or tofu dip	deep-fried vegetables
cut fresh fruit	fruit tarts, pie, cobblers
grilled or broiled skinless chicken strips	fried chicken, chicken with skin
miniature meatballs from lean meat, turkey	large meatballs made with fatty meat, or meatballs served in gravy or heavy sauces
broiled or poached seafood	deep-fried seafood, seafood in high-fat sauces
mushroom caps with low-fat stuffing	mushrooms with high-fat cheese or creamy stuffing
miniature pizzas with mozzarella and vegetables	large pizzas with pepperoni, Italian sausage or other high-fat meats
vegetable spring rolls, fresh and not fried	fried egg rolls
small cubes of cheese, 0.75 inches (2 cm)	large slices of cheese
whole-grain, low-fat crackers	regular crackers with trans-fats
low-fat, air-popped popcorn with no butter	oil-popped popcorn or popcorn with butter
baked or low-fat chips, pretzels	regular chips
dips made of salsa, hummus, or low-fat cottage cheese	dips made of mayonnaise, sour cream, cream cheese or cheese sauce
small slices of cake, 2 inches (5 cm)	large slices of cake

This table is adapted from recommendations presented in "Guidelines for Offering Healthy Foods at Meetings, Seminars, and Catered Events" from the University of Minnesota School of Public Health.

Bibliography

- American Diabetes Association. 2008. "Economic costs of diabetes in the U.S.A. in 2007" in *Diabetes Care*, Vol. 31, No. 3 (American Diabetes Association), pp. 596–615.

- Arcand, J. 2001. "Undernourishment and economic growth: The efficiency cost of hunger" *FAO Economic and Social Development Paper 147* (Rome, Food and Agriculture Organization).

- Canetti, L.; Bachar, E.; Berry, E. M. 2002. "Food and emotion" in *Behavioural Processes*, Vol. 60, No. 2, pp.157–164.

- Caton, S. J. et al. 2004. "Dose-dependent effects of alcohol on appetite and food intake" in *Physiology and Behaviour,* Vol. 81, No.1, pp. 51–59.

- Croppenstedt, A.; Muller, C. 2000. "The Impact of Farmers' Health and Nutritional Status on their Productivity and Efficiency: Evidence from Ethiopia" in *Economic development and cultural change*, Vol. 48, No. 3 (University of Chicago Press), pp. 475–502.

- Galenson, W.; Pyatt, G. 1964. "The quality of labor and economic development in certain countries" in *Studies and Reports*, New Series, No. 68 (ILO, Geneva).

- Haas, J. D.; Brownlie, T. 2001. "Iron deficiency and reduced work capacity: A critical review of the research to determine a causal relationship" in *The Journal of Nutrition*, Vol. 131, No. 2, pp. 676–688.

- Haddad, L. 2002. "Nutrition and Poverty" in *Nutrition: A Foundation for development* (Geneva, UN ACC).

- —. 2003. "What can food policy do to redirect the diet transition?" *Discussion Paper 165* (Washington, D.C., International Food Policy Research Institute).

- Horton, S.; Levin, C. 2004. Commentary on "Evidence That Iron Deficiency Anaemia Causes Reduced Work Capacity" in *The Journal of Nutrition*, Vol. 131, No. 2, pp. 691–696.

- International Labour Office (ILO). 1998. *Encyclopaedia of Occupational Health and Safety* (Geneva).

- Kedir, A.M. 2009. “Health and Productivity: Panel Data Evidence from Ethiopia” in *African Development Review*, Vol. 21, No.1 (Wiley-Blackwell, African Development Bank), pp. 59–71.

- Perkins, K. A. 1992. “Effects of tobacco smoke on caloric intake” in *British Journal of Addiction*, Vol. 87, pp. 193–206.

- Popkin, B. M.; Horton, S.; Kim, S. 2001. “The nutritional transition and diet-related chronic diseases in Asia: Implications for prevention”, *Discussion Paper 105* (International Food Policy Research Institute).

- Puska, P. 2003. “Successful strategies to influence national diets: The Finnish experience” in *Zdrav Var*, Vol. 43, pp. 191–196.

- The Lewin Group. 1997. *The Cost of Covering Medical Nutrition Therapy Under Medicare: 1998 through 2004* (The American Dietetic Association). Available at: http://www.lewin.com/publications/publication/205/

- Thomas, D.; Strauss, J. 1997. “Health and wages: Evidence on men and women in urban Brazil” in *The Journal of Econometrics*, Vol. 77, No. 1, pp. 159–185.

- Tuomilehto, J. et al. 2001. “Prevention of type 2 diabetes mellitus by changes in lifestyle among subjects with impaired glucose tolerance” in *The New England Journal of Medicine*, Vol. 344, No. 18 (Massachusetts Medical Society), pp. 1343–1350.

- University of Maryland Medical Center (UMMC). 2004. *Comprehensive information on macro - and micronutrients*. Available at: http://www.umm.edu/altmed/ConsLookups/Supplements.html

- Wanjek, C. 2005. *Food at work: Workplace solutions for malnutrition, obesity and chronic diseases* (Geneva, ILO).

- Wolf, A. M.; Colditz, G. A. 1998. “Current estimates of the economic cost of obesity in the United States” in *Obesity Research*, Vol. 6, pp. 173–175.

- World Health Organization (WHO). 2000. *Turning the tide of malnutrition: Responding to the challenge of the 21st century* (Geneva). Available at: http://www.who.int/mip2001/files/2232/NHDbrochure.pdf

- —. 2003a. “Diet, nutrition and the prevention of chronic diseases” *Technical Report Series, No. 916*.

- —. 2003a. *Global strategy on diet, physical activity and health* (Geneva).

📖 —. 2004. *Iodine Status Worldwide* (Geneva).

📖 —. 2006. Fact sheet No. 311, *Obesity and overweight* (Geneva).

📖 —. 2008. *World Prevalence of Anaemia 1993-2005*. (Geneva).

📖 —. 2009. Fact sheet No. 312, *Diabetes* (Geneva).

📖 —. 2009. Fact sheet No. 317, *Cardiovascular diseases* (Geneva).

Websites

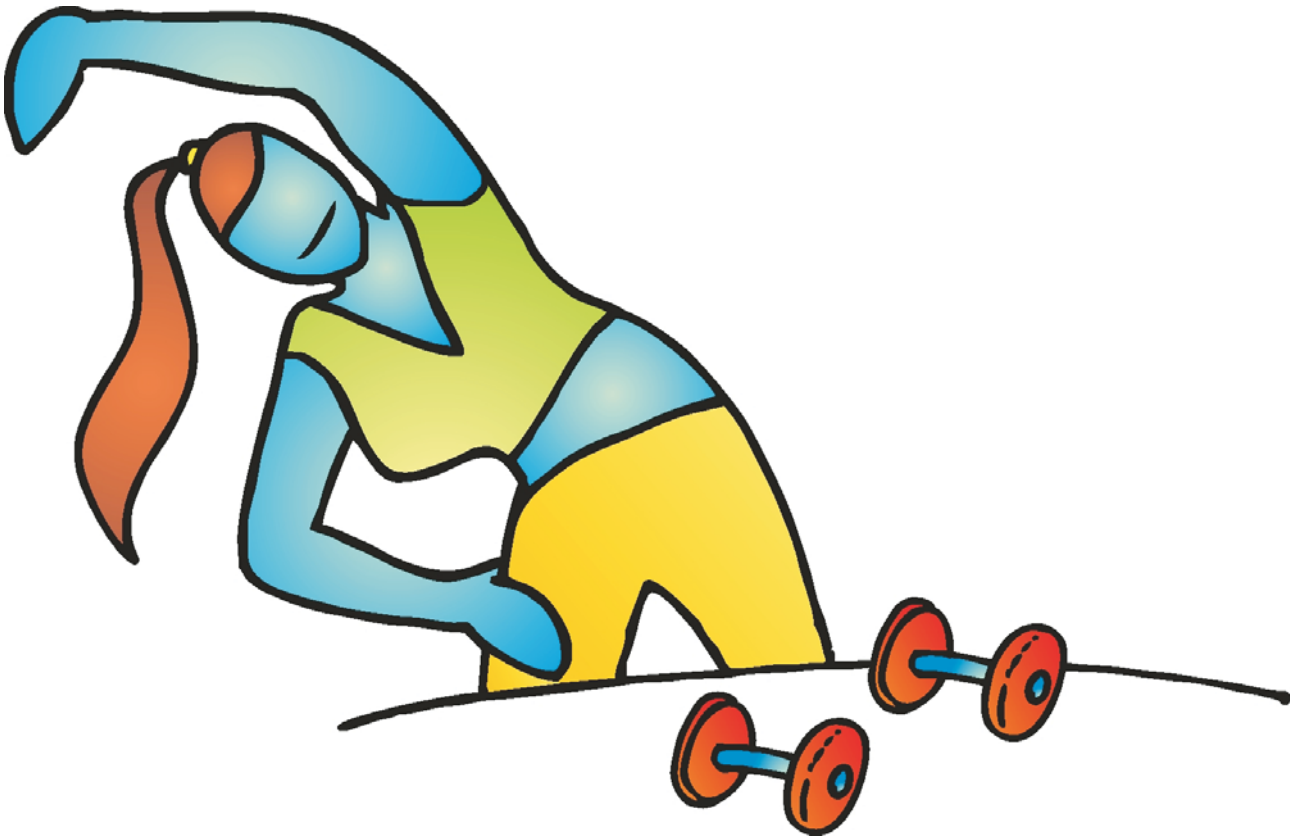
- University of Maryland, Medical Encyclopaedia Index:
  http://www.umm.edu/altmed/index.htm

- World Health Organization, Nutrition:
  http://www.who.int/nut/en

- World Health Organization, Global Strategy on Diet, Physical Activity and Health:
  http://www.who.int/dietphysicalactivity/pa/en/index.html

- World Health Organization, Micronutrient Deficiencies:
  http://www.who.int/nutrition/topics/ida/en/index.html

Physical activity for health



1. Introduction

How do you get to work? Do you walk some of the way? Or cycle?

What do you do when you get there? Most people either do work which requires physical activity or move around from one part of their workplace to another during their working day.

The human body is made for movement, which is one of the most basic and essential functions of humans. It has been a fundamental element for human survival for thousands of years and the body is designed for high levels of physical activity. Yet, recently there has been rapid decrease of the need for movement in the daily life of many people.

Movement, physical activity and exercise provide essential stimuli for the body. Without these stimuli the body weakens and is more at risk of serious diseases. The accompanying symptoms reduce both the ability to work and quality of life. Fortunately, there are ways of increasing physical activity for health to the benefit of all and the workplace can be a good place to start.

Lack of physical activity is becoming common in most parts of the world and, in many places, is increasing rapidly. There are many reasons for this: one is the reduction of physical activity involved in work and household chores, thanks to electricity and better tools and automation, while another is the motorization of transport. In wealthy countries, lack of physical activity is compensated partly by increased exercise during leisure time, but many people do not do enough physical activity in their time off to stay healthy and fit.

The situation may be even worse in developing countries and in countries with sectors in transition from rural, agricultural to urban industrialized societies. Work may involve significant physical activity, but instead of enhancing health it is often contributing to fatigue, partly due to poor nutrition and heavy workload. At the same time certain parts of the population have become increasingly physically inactive, with fewer possibilities for physical activity for health or leisure. As a result there is increased illness, higher health-care costs and decreased productivity. This represents an increasing burden to all parties: workers, their families, employers, and society.

Obesity and diabetes in Samoa

With modernization of lifestyles in recent years, the populations of many Pacific islands have become increasingly physically inactive. Rates of obesity and related illnesses such as diabetes have also increased.

For example, in Samoa, 57 per cent of the population is obese, this is caused by lack of physical activity, particularly in urban areas. Twenty-one per cent of the overall population do little or no physical activity. The problem is compounded by smoking, poor nutrition and alcohol consumption.

Diabetes rates are high in Samoa with 23 per cent of the population suffering from the disease.

Source: WHO, Country Health Information Profiles, 2008.

2. Understanding the lack of physical activity

Physical activity is defined as any bodily movement produced by the contraction of muscles that substantially increases both heart rate and energy expenditure. This section looks at definitions of various types of physical activity (or inactivity) and shows that sometimes different types of physical activity can be useful for different purposes.

Physical inactivity may be absolute, such as bed rest, or just very little activity, with light and infrequent use of muscles.

Lack of physical activity or insufficient physical activity refers to physical activity that is too light, short-lived or infrequent as to give sufficient stimulus for the body to maintain its normal structure and functions. Different parts of the body require different amounts of stimulus. Equally, the requirements are different for different people. For example, young, fit workers need to do different levels and different types of exercise for health than older workers. Also, someone who is very inactive will see large benefits from a small amount of activity, whereas someone who is already very active would need to do more to see and feel a significant difference.

Sedentary lifestyle is characterized by sitting or remaining inactive for most of the time, for example at work or at home. Mechanisation at work, and television at home have made many people's lives more sedentary.

Occupational physical activity is done as part of a job. Many jobs today are largely sedentary, while others are too physically demanding and can lead to accidents and illness.

Leisure-time physical activities are activities that are done during free time, based on personal interests and needs. They can be performed in a systematic way as exercise, or more sporadically, such as leisurely walking, gardening, dancing, etc.

Lifestyle physical activities refer to physical activities that are performed as part of everyday life, such as doing household chores, walking and cycling to work and on errands, or using the stairs instead of the elevator.

Exercise refers to planned sessions of physical activity usually pursued for personal fitness or health goals.

Exercise training is a planned, structured and repetitive way of practicing physical activities.

Aerobic or endurance exercise or training involves large muscle groups in dynamic activities at moderate or vigorous but not maximal levels of effort, which result in substantial increases in heart rate and energy expenditure. Regular participation in aerobic activities produces improvements in the function of the heart and circulatory system, lungs, muscles and in endurance. This results in an increased capacity for extended periods of moderate and heavy work, where required. Regular participation in

aerobic physical activity over a period of several years decreases the risk of many chronic diseases, notably coronary heart disease, stroke, diabetes, and some cancers.

Resistance or strength training consists of exercises that require moderate or high use of muscular strength or power and that increase strength, power or endurance of the trained muscles depending on the characteristics of the training programme.

Sports include a great number of activities that are practiced according to defined rules and that include measurement and usually competitive aspects. Serious training for traditional sports is a very systematic way of exercising. In many countries the term "sport" is used to mean the same thing as physical activity for leisure. The term "sports for all" is often used to mean physical activity or exercise for health, fitness and well-being, even without a competitive element, for all people.

Physical fitness is measured by assessing the ability to perform physical activity in different ways. Traditionally the focus has been on performance-related fitness which measures those attributes that are important for good physical performance of various types.

Sufficient level of physical fitness means that a person is able to carry out daily tasks with vigour and alertness, without undue fatigue, and with ample energy to enjoy leisure time and meet unforeseen emergencies.

Ways of assessing physical fitness :

- cardio-respiratory stamina;
- muscle endurance;
- strength and power;
- flexibility;
- agility;
- balance;
- improved reaction time;
- body composition.

Health-related fitness:

- sufficient capacity of the cardio-respiratory and musculo-skeletal systems;
- low levels of risk factors for chronic diseases;
- optimal weight and fat mass;
- good psychological and social well-being.

Health-related fitness has recently gained much interest. It refers to those attributes that are clearly related to various aspects of health showed in the box and that can be influenced by regular physical activity. Measuring health-related fitness allows the assessment of one's health status and whether or not there is a need to intervene.

Physical activity recommendations

Over the years various recommendations have been issued to guide people on the type, amount, frequency, and intensity of physical activity that is needed for different purposes. The table below is based on the Public Health Recommendation of Physical Activity issued by the Center for Disease Control and Prevention of the United States and the American College of Sports Medicine (Center for Disease Control, 1996).

- All people over the age of 2 years should accumulate at least 30 minutes of endurance type physical activity, of at least moderate intensity, on most - preferably all – days of the week.
- Additional health and functional benefits of physical activity can be achieved by adding more time in moderate-intensity activity, or by substituting more vigorous activity.
- Persons with cardiovascular disease (CVD), diabetes, or other chronic health problems who would like to increase their physical activity should be evaluated by a physician and provided an exercise programme appropriate for their clinical status.
- Previously inactive men over age 40, women over age 50, and people at high risk for CVD should consult a physician before embarking on a programme of vigorous physical activity to which they are unaccustomed.
- Strength-developing activities (resistance training) should be performed at least twice per week. At least 8 – 10 strength-developing exercises that use the major muscle groups of the legs, trunk, arms, and shoulders should be performed at each session, with one or two sets of 8 – 10 repetitions of each exercise.

A 2004 review of physical activity and health undertaken by the UK's Chief Medical Officer upheld the same recommendations with some exceptions that are worth mentioning. In order not to gain weight, more physical activity is needed as compared with the above Public Health Recommendation: 45 to 60 minutes of moderate activity per day. For weight management after weight reduction 60 to 90 minutes moderate or 35 minutes of vigorous activity per day is needed. Young people need at least 60 minutes per day.

What is relevant is that regular physical activity not only prevents illness but makes you healthier. A high level of physical activity reduces the risk of some cancers. Health can be understood as the energy we need to have the potential to survive, perform and achieve in life, not only physically, but mentally and socially as well. The better your health, the better your body functions and is able to prevent sickness. Exercise can also be beneficial for people who are already ill.

Increased physical activity is not necessarily a cure-all measure. There are also genetic factors to take into account, as well as lifestyles or psychosocial factors. The ultimate risk of becoming sick depends on a combination of different factors. However, physical activity, lifestyle and psychosocial factors can be influenced, so there is room for positive change to improve workers' health and productivity.

3. Impact on health of lack of physical activity

How widespread is the problem of insufficient physical activity? What impact does it have on health? And what impact does it have on work?

The statistics on levels of insufficient physical activity vary greatly for many reasons, partly because they are measured differently. Lack of physical activity is nevertheless a massive worldwide problem. The "World Health Report" estimates that globally, 17 per cent of the population is physically inactive. Among those who do some physical activity, 41 per cent of the world population do only "some but not sufficient" physical activity, which the WHO defines as less than 2½ hours a week of moderate activity (WHO, 2002). Taken together, these figures mean that more than half of the global population are potentially putting their health and well-being at risk by not doing enough physical activity.

Only limited data are available on trends and changes in physical activity. It is clear, however, that physical activity at work, in transportation and in domestic chores is decreasing in most countries. Leisure activity is increasing slowly in a few countries, but decreasing in others. The situation is particularly difficult in countries where physical activity at work, at home and as a means of transport is rapidly decreasing, but for cultural, economic and lifestyle reasons physical activity for leisure is practiced only to a limited extent and mainly by people who are better off.

Lack of physical activity is related to many illnesses, including osteoporosis, stroke, heart disease, diabetes and cancer. It has long been known that people who move less are ill more often, and doctors and scientists have recently been able to prove that the lack of physical activity can be a contributing factor to the illness.

Lower back pain and neck pain

Pain, muscle tension and stiffness in the lower back, or lumbar region, may be experienced by 70 – 85 per cent of people at some time in life, and at any one time point 15 to 45 per cent of the population may have these symptoms (Nachemson, 2000). In most cases the symptoms disappear after a few weeks, but they tend to come back again and become chronic if the source of the problem does not change. Lower back pain is one of the leading causes of absence from work. Pain and stiffness in the neck are experienced by up to 50 per cent of the population in industrialized countries, and is especially common in women (Anderson, 1999).

For people with lower back pain, being active has been shown on the whole to be better for their backs than being inactive. Fortunately, the most commonly practiced physical activities for leisure do not increase the risk of lower back pain, and occupational physical activity do not cause back pain if it is properly organized and monitored.

Exercise programmes have been found to be good for chronic, long-term lower back pain, although not for current, acute pain. However, it is important for each person to exercise proportionately because heavy, repetitive, prolonged physical exertion whether at work or when doing sport can sometimes be the cause of lower back pain if not carried out properly. Exercise can also prevent back pain by maintaining or increasing the strength and endurance of the back and trunk muscles.

Some recent well-conducted studies provide evidence that physical activity to train the neck muscles is good for reducing pain and chronic disability that causes neck pain, but physical exercise does not necessarily prevent neck pain.

Coronary heart disease and stroke

Both coronary heart disease and stroke are characterized by gradual narrowing of the arteries. In the case of coronary heart disease, it is the arteries leading to the heart muscle which are affected, and in the case of stroke (or cerebrovascular disease) it is the arteries leading to the brain. If not enough blood can reach the heart or the brain, there will be a lack of oxygen in these organs. This can cause damage to the heart or brain and potentially result in death. Annually, coronary heart disease leads to about 7.2 million deaths and to more than 10 million heart attacks in the world. Stroke is the third leading cause of death worldwide, accounting for about 5.5 million deaths annually. In addition, stroke is the leading cause of disability in developed countries.[1]

The high rates of these heart diseases are largely due to unhealthy diet, lack of physical activity, and tobacco smoking. If you smoke, have high blood pressure or high cholesterol levels, you are more likely to suffer from these diseases. There is also a genetic risk.

In physically inactive persons the risk of coronary heart disease or stroke is 30 to 50 per cent higher than for those who are at least moderately active (Wannamethee, 2002). The risk can be decreased substantially by increasing physical activity, and exercise plays an important role in cardiac rehabilitation. Even a moderate amount of physical activity, such as a brisk walk for half an hour on most days, has been found to decrease the risk of stroke.

Cardiovascular Disease: Impact on Employers

Cardiovascular disease in the European Union is estimated to cost:

- €169 billion a year,

Productivity accounts for:

- 21 per cent of those costs, or
- €35.5 billion

Source: Leal, 2006.

1 *Cardiovascular disease: prevention and control*, WHO, 2010.
Available at: http://www.who.int/dietphysicalactivity/publications/facts/cvd/en/

Cancer

> In one study of lost productivity due to various illnesses conducted in the USA, 66 per cent of the cases of sick-leave or reduced performance while still at work were reported by workers suffering from cancer.
>
> *Source: Kessler et al., 2001.*

Cancer is a class of disease characterized by abnormal and uncontrolled growth in the number of cells. If the growth is not controlled, it can result in death. Some people have a genetic predisposition to cancer, this means that they are more likely to develop cancer during their lifetime. That is why some people get it and others do not. Cancer arises from a combination of factors and potential causes. However, the risk of cancer can be increased as a consequence of risk behaviours, such as smoking, eating an unhealthy diet or drinking too much. There are also environmental factors including food additives and food contaminants. While tobacco use is the single largest contributing factor to cancer today, factors like lack of physical activity combined with an unhealthy diet leading to overweight and obesity are also important contributing factors for the high and increasing occurrence of cancer in genetically predisposed populations in industrialized countries.

According to Cancer Research UK, half of cancers can be prevented by changing lifestyles. To prevent cancer, experts recommend physical activity several times a week at moderate intensity and for at least half an hour per session. This should help keep weight under control and stimulate the immune system, which can in turn prevent cancer. Physical activity, for example, is associated with 25 per cent lower risk of bowel cancer and breast cancer in UK (Cancer Research UK).

Obesity

Obesity is an excess of body fat that can have a significant contribution to health problems, including heart disease, diabetes and arthritis (putting added strain on joints.)

According to WHO the prevalence of overweight and obesity is increasing worldwide at an alarming rate affecting women men and children. Today it is estimated that there are more than 300 million obese people worldwide.[2] (WHO, Fact sheet, 2006).

Both developed and developing countries are affected. In low-income countries, obesity is more common in middle-aged women, people of higher socio-economic status and those living in urban communities. In developed countries levels of obesity are higher in the lower socio-economic groups. Obesity is common not only in the middle-aged, but is also becoming increasingly prevalent among younger adults and children. Furthermore, it tends to be associated with lower socio-economic status, especially in women. The transition from a rural to an urban lifestyle is associated with

2 "Obesity and overweight", *Fact sheet No. 311*, WHO, 2006.
Available at: http://www.who.int/mediacentre/factsheets/fs311/en/

increased levels of obesity, which has been linked with dramatic changes in lifestyles (e.g. increased consumption of high energy dense foods and decrease in physical activity). However, there is a trend in certain regions where urban–rural differences are diminished or even reversed.

Obesity levels also vary depending on ethnic origin. Ethnicity and cultural eating habits are also features associated with the variation in levels of obesity. In the USA, particularly among women, there are large differences in the prevalence of obesity between populations of the different ethnic origins within the same country.

From available data in 2000, the worldwide prevalence of obesity has been found to range from less than 5 per cent in rural China, Japan and some African countries, to levels as high as 75 per cent of the adult population in urban Samoa which is higher than the prevalence of 65.7 per cent in the United States of America for the same period.[3]

The Foresight report on obesity from 2007, reported that the National Health System costs attributable to overweight and obesity were projected to double to GBP£10 billion per year by 2050. Obesity will cost £49.9 billion per year by 2050 to the UK economy in direct and indirect costs, if the epidemic is not brought under control through dramatic changes across society. NHS Scotland already spends £175m a year treating problems associated with excess weight, including £48m tackling Type 2 diabetes, £38m on hypertension and £4.4m on specialised medical equipment for coping with heavy patients. Indirect costs to society, such as days off work, are estimated to cost a further £282m a year (FORESIGHT, 2007).

The single most common cause of obesity is eating food which provides more energy than a person uses. This typically happens where high-fat, energy-dense foods are available in large portions at relatively low cost, while at the same time the need for energy expenditure at work, in transport, and in domestic chores has decreased. In other words we move less, but we eat more.

Physical activity combined with a low energy diet can be used to prevent obesity, and are also useful to combat the problem once it has occurred. However, losing weight is a challenge because significant amounts of physical activity are needed to reach substantial fat loss. It is still worth encouraging physical activity in both obese and non-obese people, because it generally improves health, even if weight stays the same. For example, endurance training can reduce the risk of cardiovascular diseases and resistance training improves muscle mass in conjunction with dieting.

[3] The Global Challenge of Obesity and the International Obesity Task Force, International Union of Nutritional Sciences, 2002.
Available at: http://iuns.org/features/obesity/obesity.htm

"Influence of obesity on health care costs and absenteeism among workers of a mining company."

A study of over 4,000 male mining workers in Chile, conducted by the *Pontificia Universidad Católica de Chile* in Santiago, found that :

- Annual health care costs were 17 per cent higher for obese workers than for workers with normal weight and 58 per cent higher for workers with severe obesity.
- Obese workers took 25 per cent more sick leave than other workers, rising to 57 per cent among severely obese workers.

Source: Zarate et al., 2009.

Hypertension

High blood pressure levels damage the arteries that supply blood to the heart, brain, kidneys and other parts of the body, and can result in damage to those other organs. About two thirds of strokes and half of heart disease cases are linked with high blood pressure. In 2001, 40 per cent of adults in England and Wales were hypertensive, this accounted for 15 per cent of the total annual cost of all drugs prescribed in the primary care system. There is no sharp distinction between normal and elevated blood pressure, but currently the borderline between normal (satisfactory) and (mildly) elevated blood pressure is set at 140/90 mmHg (National Health Service, Survey for England, 2006).

The problem is largely caused by unhealthy diets and sedentary lifestyles. People whose diet includes a lot of salt, fat and alcohol, who are overweight, who do not do much exercise and who suffer from stress are at more risk of having high blood pressure.

Lack of physical activity makes it 30 per cent more likely that a person will develop hypertension. Fortunately, increasing levels of physical activity is good for blood pressure. Already a single session of physical activity decreases the blood pressure level for up to about 20 hours.

Diabetes

Diabetes is a common disease. It is a chronic health condition where the body is unable to properly break down sugar (glucose) in the blood. Type 2 diabetes develops as a result of a combination of genetic and environmental factors. The most important environmental factors are obesity, lack of physical activity and a diet rich in saturated fats. Physical activity decreases the risk of developing type 2 diabetes by approximately 30 per cent. In 2005 over one million deaths were attributed to diabetes with the actual number estimated to be far higher because of misdiagnosis, the overall risk of dying among people with diabetes is at least double the risk of their peers without diabetes. Type 2 Diabetes is increasing rapidly amongst adults, and the WHO

predicts that by 2030 the number of people with type 2 diabetes in the world will be more than double the 2005 figure (WHO, 2009).

Costs of diabetes in health care and productivity in 2007

The total estimated cost of diabetes in the USA in 2007 was US$174 billion, including:

- $116 billion excess medical expenses; and
- $58 billion in reduced productivity.

Indirect costs were estimated as follows:

- $2.6 billion for absenteeism;
- $20 billion for reduced productivity while still at work;
- $7.9 billion for unemployment due to diabetes;
- $26.9 billion for lost productive capacity due to early death.

Source: American Diabetes Association, 2008.

Increasing physical activity decreases the risk of type 2 diabetes, depending on how much activity is done. Losing weight through dieting and becoming more active has been shown to reduce the risk of developing diabetes by as much as 60 per cent. Both moderate to vigorous aerobic activities and resistance training are effective, and it helps to do both types of exercise.

Diabetes and arthritis are not directly related but often overlap. According to the Center for Disease Control and prevention in the United States 52 per cent of people with type 2 Diabetes also have osteoarthritis (Arthritis Foundation, 2010). Sedentary lifestyles and obesity can contribute to worsen both.

Osteoporosis and Osteoarthritis

Physical activity improves the strength and function of joints, bones and muscles. The cartilage in joints needs to be used regularly in order for it to stay healthy. Physical inactivity can contribute to arthritis (or osteoarthritis), which is very painful and reduces the ability to function.

Lack of physical activity can also influence the development of osteoporosis, or low bone mass and deterioration of the bone tissue. Osteoporosis usually develops without any symptoms and without the person noticing. Because lack of physical activity also affects muscle strength and coordination, it may be more likely for an inactive person to fall and break a bone. So the combination of weak bones and weak muscles significantly increases the risk of injury. Regular moderate exercise reduces joint pain and stiffness, builds strong muscles around the joints and increases flexibility and endurance.

Costs to employers from illnesses linked to lack of physical activity

In a study of over 8,000 workers in United States, the impact of absenteeism and presenteeism due to various illnesses was assessed and quantified in US dollars.

The average total productivity (absenteeism + presenteeism) losses per employee per year were:

- US$269 for arthritis/rheumatism;
- US$105 for hypertension or high blood pressure;
- US$95 for diabetes;
- US$40 for coronary heart disease.

Source: Lamb et al., 2006.

The economic impact of lack of physical activity

Lack of physical activity leads to a number of serious and long-term health conditions, some of which make people unable to work and some of which are fatal. As well as the human suffering, this means increased use of health care services and economic consequences for employers, workers and governments. In a Finnish study which ran for 16 years, sedentary men spent 36 per cent more days in hospital and sedentary women 23 per cent more than the most active men and women (Malmberg et al., 2002).

An extensive analysis of the economic burden of physical inactivity in Canada found that 2.5 per cent of the total direct health-care costs of the country were attributable to physical inactivity, amounting to C$2.1 billion a year. The Canadian study did not estimate the indirect costs which include lost productivity while still at work, unemployment from disability due to illness, and lost productivity resulting from early death. Given that the direct costs for Canada already run to billions of dollars, the overall costs must be even more extensive and are likely to be considerably more (Katzmarzyk et al., 2000).

4. Managing physical activity for health at work

Scientific evidence indicates that physical inactivity is a serious hazard to health, to working capacity and to productivity, and it affects many people in most countries of the world. A large proportion of the sufferers are persons of working age, and the losses in terms of productivity and health care costs are extremely expensive. These adverse effects are increased by inadequate diet and other factors such as stress, smoking and excessive use of alcohol. Such factors are frequently connected to lifestyles in industrialized countries and increasingly also in developing countries.

A moderate amount of regular physical activity at moderate intensity and in a variety of forms would prevent many of the health related problems mentioned so far. However, barriers to physical activity hamper efforts, be they perceived or real, and include physical, physiological, psychological, social, cultural, or economic obstacles.

These obstacles can be decreased by developing and implementing effective public policies and concrete measures. Although physical activity belongs largely to the private domain of individuals, society is responsible for providing sufficient information on the importance of regular physical activity and opportunities to be physically active for health in feasible and safe ways. This calls for multiple partners, because the policies and strategies have to cut across many sectors. Workplaces should be a key setting for awareness raising as part of a health promotion strategy; firstly because of the benefit in well-being and productivity from the increased physical activity for health of the workers, and secondly because of the characteristics of the workplace which make success more likely.

Experience and scientific studies have shown that there is good potential for workplace programmes to improve levels of physical activity and bring substantial benefits for workers and employers alike. Well-conducted programmes have resulted in more fitness, less absence from work, reduced risk factors for chronic diseases, fewer symptoms and better perceived health and well-being.

In order for such programmes to be successful, some elements have proven to be essential:

- they be part of an integrated OSH policy framework covering related psychosocial factors and health promotion measures;
- a clear vision and a specific strategy on physical activity for health;
- commitment of all parties to carry out an effective programme;
- planning and implementation based on actual values, norms, attitudes, needs, expectations, and possibilities of workers;
- sufficient measures implemented for a useful period of time;

- good follow-up;
- sufficient economic, administrative and human resources.

Programmes which include community measures have shown to be particularly effective. This can include encouraging commuting to work on foot or by bicycle, and increasing the use of sports facilities outside of work by reducing fees. This is effective because it stimulates physical activity not only in leisure time but also as part of the general lifestyle. Personal, internal motivation to exercise is the most important factor for any successful programme.

Several moral and ethical aspects have to be fully respected in the promotion of workplace physical activity for health. Participation in the activities has to be completely voluntary, privacy must be respected, and all information concerning individuals should be confidential. The programmes or measures should be inclusive and respect the needs and preferences of men and women. Ideally programmes should take into account what means are available for the workers and ensure that less privileged members of the workforce are not excluded.

Cost-effectiveness

Workplace physical activity promotion can be an economically profitable investment, when longstanding comprehensive measures are used. As a general rule, the cost-effectiveness of physical activity promotion is likely to be better if it is based on an integrated policy and an appropriate strategy.

An important prerequisite for the successful promotion of workplace physical activity is an integrated policy framework on OSH and its thorough implementation. For it to work properly there needs to be a shared assumption in the workplace that physical fitness and health are useful both for the worker and the employer to ensure the continuing success of the enterprise. There needs to be a comprehensive programme, integrally linked with other policy areas at work and coordinated with approaches to other health promotion measures. For example, encouraging physical activity at work, but continuing to provide a high-fat, high-sugar, low-fibre diet in the enterprise's canteen will work against the positive benefits of the physical activities promoted.

The policy itself should be implemented on a continuing basis with adequate resources. Policy development needs to be a collaborative effort between partners including representatives of all levels of the personnel, from the directors to part-time workers, as well as those responsible for safety and health at work. Commitment to the policy by all parties is crucial.

5. Good practices

When applying the continuous improvement cycle to health promotion in general and to the promotion of physical exercise in particular, the following framework for policy development can be seen as an example of good practice, based on the application of the continuous improvement cycle to health promotion to physical activity for health.

Physical activity for health at work

1. Vision:
Sustainability, credibility, based on data, innovation, social justice.

2. Making the case:
Current lack of physical activity and high cost to health and productivity; potential benefits for health and productivity; feasibility; other social and environmental benefits.

3. Defining the problem:
How much current physical inactivity is there; who is inactive and why.

4. Solutions:
Use proven, effective interventions; be culturally appropriate; link to other health and psychosocial problems; use all available and new opportunities; use regulatory approaches as appropriate, as well as information and education; ensure good governance and accountability; cover all useful areas of life, including commuting.

5. Implementation:
Worker consultation and needs assessment; written policy and strategy; monitor changes in work and social environment and respond to them; stable base of support; coalitions, partnerships, leaders and champions; focus on physical activity providing enjoyment and social interaction; integrate with related measures in areas like sports, education, culture, transport, urban planning and media.

6. Evaluation:
Formative, process and impact (outcomes).

Adapted from Shephard et al., 2004.

Strategy options

Once the integrated policy is in place, a specific strategy for the promotion of physical activity for health needs to be developed. One of the key decisions to be taken is what measures should be adopted in a given workplace. In different situations, different combinations of activities will be needed. It has also been shown that one-off and short-term measures are not very effective. In particular, providing information alone, for example in the form of leaflets, or just giving financial incentives for physical activity, but not allowing people time to exercise, tends to be ineffective. It is also important to adopt measures that meet the needs, expectations, possibilities, and resources that were agreed upon during the development of the policy to avoid potential frustration. They should also match the culture of the workplace and its environment or they are unlikely to be accepted.

The range of possible strategy elements includes the following:

Elements of a strategy for the promotion of physical activity for health	
Information	Can take the form of leaflets, posters, articles, websites, presentations; Can cover issues like the benefits of physical activity; different opportunities to be active, such as at the workplace, while commuting to work, during leisure time, or while doing household chores; advice on different exercise programmes, facilities, equipment, and clothing.
(Peer) Education	Provides more formal and thorough knowledge of the issues mentioned above through courses, lectures, articles, websites and discussion groups. Education and training are especially useful when provided by peers who assist workmates in becoming physically active.
Questionnaires	Collecting information on the health and physical activity habits of the workforce, and on the values, attitudes, preferences and obstacles related to physical activity can be used to design a programme and as an evaluation tool to measure its success.
Regular health examinations	Can measure a worker's need for physical activity and identify any health issues that could influence the choice of sport.
Fitness tests	Can measure the levels of various aspects of fitness; the need for physical activity for different purposes; can be used to follow-up the effects of exercise programmes.
Prompts and possibly incentives	Can encourage workers to use opportunities to be physically active during the working day, such as using the stairs instead of elevators and walking to communicate with workmates instead of using phone or email.
Counselling and guidance	Provides individual help on suitable physical activities; can be motivating.

Elements of a strategy for the promotion of physical activity for health	
Exercise groups	Groups of individuals with the same goals, motivation and level of skill provide much social support and sharing of experience that can encourage people to start and then continue exercising; Peers with some training in how to lead exercise groups have been shown to be a good way to provide the necessary leadership.
Exercise events	Either non-competitive and competitive; can provide opportunities to try a new sport, and can encourage more exercise by providing a goal to work towards; can increase social coherence at work. These events can be offered also to family members in order to widen the scope of the promotional efforts.
Facilities, equipment, clothing	Can be organized and paid for by the employer, either in part or in full.
Subsidies	Can be provided by the employer for the fees of a gym or other sport facilities outside work, either in part or in full.
Awards, prizes	Can be provided for either performance or participation.
Incentives to walk or cycle to work	Can include provision of facilities to change clothes and to wash; to park bicycles; improving road safety (in collaboration with the community), financial incentives.
Exercise breaks	Can be provided during the working day.
Monitoring	Of physical activity at work; timely feedback of the findings.

Who can do what?

Employers	• Include physical activity for health as an important part of the integrated worksite OSH policy; • contribute to the development the policy as a collaborative effort with other partners; • commit to support it financially and symbolically; • motivate, also by their own behaviour, others to adopt a physically active lifestyle.
Workers and their representatives	• participate in the development of the policy by expressing the views, needs, expectations and suggestions and implementing it; • promote acceptance of the policy among workers.
Occupational safety and health specialists	• provide their professional knowledge of the physical activity needs at the workplace; • provide information on effective ways of implementing the policy.

Community representatives and providers of sport and exercise services	• provide information of the possibilities for sports, exercise and other physical activities in the community; • supply information on the conditions for the use of sports facilities.

6. Interrelationships

Physical activity creates beneficial effects on the health of people and can contribute to reduce the health risks related to eating habits, smoking, alcohol consumption and drug use, stress, and even violence, if combined with other health promotion measures. For this reason, physical activity should be a component of workplace health promotion measures. Some of the interrelationships are examined below.

Nutrition and physical activity

Diet and physical activity are both important for many functions of the body and for how the body processes carbohydrates and fats. The risk of chronic diseases is influenced by what people eat and how much physical activity they do.

For muscles to develop and be strong, they need both physical activity and sufficient protein; exercise alone, or just a high-protein diet will not be enough. The same is true for bone mass and strength: calcium and vitamin D are required from the diet, and physical activity makes the body incorporate them into bone tissue.

Carbohydrates and fats are processed by the body especially effectively during physical activity. Without muscular activity, the carbohydrates and fat are stored in the body, making the person put on weight. With increased weight, the risk of serious diseases, such as type 2 diabetes and cardio-vascular diseases increases too.

Physical activity also helps to regulate appetite; the person is able to eat as much food as they need to function, rather than over-eating. Regular physical activity may make one conscious about diet; someone who has made the effort to be physically active may not want to destroy the positive effects by eating an unhealthy diet, and vice versa.

Smoking and physical activity

The general perception is that smoking and physical activity do not go together. This is seen also in reality; physically active people tend to smoke less than inactive people. This is likely to be based on many factors. Physically active people are usually more health-conscious, and they feel the harmful effects clearly in their physical performance. Their peers are probably also quite active and may oppose smoking. Many people find they enjoy physical activity and that it relieves stress, so they have less need and temptation to smoke. Sports and exercise are especially important for young members of the workforce, in order for them to develop their own healthy habits and lifestyles.

Some of the factors mentioned above are helpful also in supporting people who want to stop smoking. In addition, regular physical activity can help to counteract the feared weight increase sometimes associated with stopping smoking.

Alcohol and drugs and physical activity

Much of what is said above for smoking also holds true for alcohol and drug use. In general, regular physical activity contributes to prevent beginning alcohol and drug use, and can also help prevent excessive use of alcohol later on. However, in some sports, drinking, and sometimes heavy drinking, is seen as an integral part of the sport's culture. The leaders and coaches of sport teams can act responsibly in working against this practice without destroying the attraction of the activity.

Stress and physical activity

Physical activity is an effective way to combat stress. Relieving stress and frustration in a healthy way, even if only for short periods, may help considerably in avoiding unhealthy activities such as smoking, overeating, drinking alcohol, using drugs or behaving violently. In the long run choosing physical activity over other stress release options may have significant positive consequences.

Violence and physical activity

Violence is related to physical activity via stress and frustration. Somebody who is stressed may end up being violent, whereas they could relieve their stress through physical activity. For example, boxing can be an acceptable channel to vent anti-social and violent behaviour. Particularly young workers may be able to make effective use of this type of physical activity to establish a healthy social attitude.

7. Policy integration

Because of the way that physical activity impacts on work, it has to be included as a significant part of the overall OSH policy of the workplace. The following aspects should be considered:

- Physical activity influences well-being, fitness, work capacity, and the health of all in the workplace. Thus, physical activity influences all functions of the workplace, although these effects vary widely depending on the type of work and the characteristics of the workers. The effects of physical activity tend to appear over a long time period and in a cumulative fashion.
- There is always a need for improvement at work, and physical activity is no exception. **Continuous improvement** can be secured by developing and implementing a comprehensive policy and specific strategies for physical activity promotion.
- Physical activity is a part of the lifestyle of an individual that strongly influences their health and that in turn is influenced by the physical, social and cultural environment. **Health promotion** can help people to change and keep up changes in their lifestyle.
- One key principle of health promotion is **involvement** of the people in the processes of change. At work, involvement means that all parties should participate in the planning of the policies and in their implementation.
- Health promotion aims to improve the health of all people but especially of those at high risk and of the underprivileged. This applies naturally also to promotion of physical activity. Actions have to be taken by respecting privacy, free choice, equity, and confidentiality.

Bibliography

- American Diabetes Association. 2008. "Economic costs of diabetes in the U.S.A. in 2007" in *Diabetes Care*, Vol. 31, No. 3, pp. 596–615.

- Anderson, G.B.J. 1999. "Epidemiological features of chronic low back pain" in *The Lancet*, Vol. 345, pp. 581–586.

- Bassuk, S.S.; Manson, J.E. 2005. "Epidemiological evidence for the role of physical activity in reducing risk of type 2 diabetes and cardiovascular disease" in *Journal of Applied Physiology*, Vol. 99, No. 3, pp. 1193–1204.

- *Burton, W.N.; et al. 1998.* "The Economic Costs associated with Body Mass Index in a Workplace" in *Journal of Occupational & Environmental Medicine*, Vol. 40, No. 9, pp. 786–792.

- Center for Disease Control and Prevention; American College of Sports Medicine. 1996. *Public Health Recommendation of Physical Activity* (Atlanta).

- Colditz, G. A. 1999. "Economic Costs of Obesity and Inactivity" in *Medicine and Science in Sport and Exercise*, Vol. 31, No. 11, pp. 663–667.

- FORESIGHT: *Tackling Obesities: Future Choices – Summary of Key Messages* (UK, Government foresight programme - Government Office for Science). Available at: http://www.foresight.gov.uk/Obesity/20.pdf

- International Labour Office. 2001. *Guidelines on occupational safety and health management systems (ILO–OSH 2001)* (Geneva).

- Katzmarzyk, P.T.; Gledhill, N.; Shephard, R.J. 2000. "The economic burden of physical inactivity in Canada" in *Canadian Medical Association Journal*, Vol. 163, No. 11, pp. 435–1440.

- Kessler, R.C.; et al. 2001. "The Effects of Chronic Medical Conditions on Work Loss and Work Cutback" in *Journal of Occupational and Environmental Medicine*, Vol. 43, No. 3, pp. 218–225.

- Lamb, C.E. et al. 2006. "Economic impact of workplace productivity losses due to allergic rhinitis compared with select medical conditions in the United States from an employer perspective" in *Current Medical Research and Opinion*, Vol. 22, No. 6, pp. 1203–1210.

- Leal, J. 2006. “Economic burden of cardiovascular diseases in the enlarged European Union” in *European Heart Journal*, Vol. 27, No. 13, pp. 1610–1619.

- Malmberg, J.J. et al. 2002. “Improved functional status in 16 years of follow up of middle aged and elderly men and women in north eastern Finland” in *Journal Epidemiology and Community Health*, Vol. 56, No. 12, pp. 905–912.

- Morrato, E.M. et al. 2007. “Physical activity in the U.S. adults with diabetes and at risk for developing diabetes 2003” in *Diabetes Care*, Vol. 30, No. 2.

- Nachemson, A.L.; Jonsson, E. 2000. (eds.): *Neck and Back pain: the Scientific evidence of causes, diagnosis and treatment* (Philadelphia, Lippincott Williams and Wilkins).

- National Health Service UK, Department of Health, Physical Activity, Health Improvement and Prevention. 2004. *At least five a week* (London).

- Shephard, R.J. 2004. “Physical Activity Policy Development: A Synopsis of the WHO/CDC Consultation, September 29 – October 2, 2002, Atlanta, Georgia” in *Public Health Reports*, Vol. 119, No. 3, pp. 346–351.

- Steiner, J.F. et al. 2004. “Assessing the impact of cancer on work outcomes – what are the research needs?” in *Cancer*, Vol. 101, No. 8, pp. 1703–1711.

- Wannamethee, S.G.; Shaper, A.G. 2002. “Physical activity and Cardiovascular disease” in *Seminars in Vascular Medicine*, Vol. 2, No. 3, pp. 257–66.

- World Health Organization (WHO. 1998. *World Health Report, Life in the 21st century: A vision for all* (Geneva).

- —. 2000. *Obesity: Preventing and Managing the Global Epidemic* (Geneva).

- —. 2002. *The World Health Report 2002 – Reducing Risks, Promoting Healthy Life* (Geneva).

- —. 2003. *Diet, nutrition and the prevention of chronic diseases. Report of the joint WHO/FAO expert consultation* (Geneva, WHO Technical Report Series, No. 916).

- Zarate, A. et al. 2009. “Influence of obesity on health care costs and absenteeism among employees of a mining company” in *Revista Médica de Chile*, Vol. 137, No. 3, pp. 337–344.

Websites

- Arthritis Foundation. Arthritis and Diabetes
  http://www.arthritis.org/arthritis-and-diabetes.php

- World Health Organization on Physical Activity:
  http://www.who.int/dietphysicalactivity/publications/facts/pa/en/

- http://www.who.int/moveforhealth/en/

- World Health Organization Diabetes Fact sheet
  http://www.who.int/mediacentre/factsheets/fs312/en/

- World Health Organization, Diet and Physical Activity
  http://www.who.int/dietphysicalactivity/publications/facts/cvd/en/

- World Health Organization's Regional Office for the Western Pacific (2008) "Samoa", *Country Health Information Profiles (CHIPs),* WHO: Manila
  http://www.wpro.who.int/countries/2008/sma/health_situation.htm

- World Health Organization, Cardiovascular disease: prevention and control:
  http://www.who.int/dietphysicalactivity/publications/facts/cvd/en/

- The Global Challenge of Obesity and the International Obesity Task Force (IASO/IOTF). International Union of Nutritional Sciences:
  http://www.iuns.org/features/obesity/obesity.htm

- Cancer Research UK website: http://www.cancerresearchuk.org/

- Health Care Survey for England 2006. Cardiovascular disease and risk factors:
  http://www.ic.nhs.uk/webfiles/publications/HSE06/HSE06_Summary.pdf

- The Global Job of Obesity and the International Task Force
  http://www.iuns.org/features/obesity/obesity.htm

- National Health Service, UK, Survey for England
  http://www.ic.nhs.uk/webfiles/publications/HSE06/HSE06_Summary.pdf

- http://www.foresight.gov.uk/Obesity/20.pdf

Healthy sleep

1. Introduction

Working and sleeping habits have changed dramatically in modern times. The industrial revolution and the introduction of electricity have meant more opportunity for night time activity and around-the-clock work. Although the twentieth century saw workers in many societies gain greater control over their work hours, busy lifestyles have many of us feeling pushed for time. In developed nations, average nightly sleep has decreased from nine hours in 1910 to seven and a half hours today. Some countries are abandoning the custom of daytime naps during the hottest hours, as for example is happening in Athens, with negative consequences for long-term health. Sleep is now commonly sacrificed for work, recreation, and other activities. Parents juggle schedules to accommodate not only their own needs but also those of their children and other dependents.

Medical research is revealing the importance of adequate sleep and raising awareness of the negative impact on health, productivity, and safety of extreme sleep deprivation, chronic insufficient sleep, and sleep disorders.

Sleep is both an individual and a workplace issue. The workplace has a key role to play not only in educating people about sleep schedules and health, but also in creating healthier social practices. Workplace schedules and policies that impact sleep often have a domino effect within families as workers and family members make arrangements so that work and family needs are met. Not only are there merely 24 hours in a day, but not all hours are equal when it comes to a person's ability to sleep. Working time arrangements have a major impact on optimizing work schedules, fostering healthy expectations about balancing short-term and long-term benefits and costs, and promoting well-being of workers and their families.

Medical and social impact of sleep loss

"The cumulative effects of sleep loss and sleep disorders have been associated with a wide range of negative health consequences including an increased risk of hypertension, diabetes, obesity, depression, heart attack, and stroke. At the same time, the majority of people with sleep disorders are yet to be diagnosed. Compared to healthy individuals, those suffering from sleep deprivation and sleep disorders are less productive, have an increased health care utilization, and have an increased likelihood of injury."

Source: Colten; Altevogt, 2006.

2. Understanding sleep

How much sleep does an adult 'need'?

Adults need between seven and nine hours of sleep in every 24-hour period. Children and adolescents require more, whereas many older adults have difficulty sleeping soundly through the night. Sleep 'need' can vary between individuals, but it is usually quite stable for any one person unless they develop a health problem. Interestingly, too much sleep can also lead to poor long-term health, although there are some people who genuinely require more than eight hours of sleep per night through their adult life (Kripke et al., 2002).

Sleeping is not a waste of time and it is important not to misinterpret a real need for sleep as a sign of laziness. Sleep has a powerful impact on a person's workplace performance and on physical and mental health. Many people think of insomnia or other sleep problems only as signs of some other illness. However, a more common problem now is simply that people routinely do not get enough sleep which can itself contribute to developing other illnesses. The more we learn about sleep, the more we appreciate how essential it is for health. As a basic human necessity, sleep is as important to health as a well-balanced diet and regular exercise.

Key Facts About Sleep:

- Sleep is a basic need; individuals vary somewhat, but for adults, seven to nine hours of sleep per day is associated with best health and long life (children need more).
- Sleep deprivation increases irritability and impairs performance; people can easily fool themselves into thinking they are doing just as well with fewer hours of sleep, but the facts suggest otherwise.
- Najib et al., argue that sleeping for five hours or less per night routinely is associated with a 39 per cent increased risk for heart disease. A person who gets eight hours of sleep most nights has an 18 per cent lower risk of heart disease than a person who gets six hours of sleep regularly.
- Earlier death is seen in adults who regularly sleep less.
- People can do more to improve their sleep than is commonly known; public education is needed to increase safety, and health and productivity.

Sleep and work

Short-term increases in productivity from night work or shift work can be costly to health and often result in declines in overall productivity and safety. This is because sleep restores brain function and the body's metabolism (how it processes food). Decreasing hours of sleep in a desperate attempt to get more done is counterproductive both in terms of work performance and health. In children, lack of sufficient sleep contributes to shortened attention spans and overactive behaviour. Sleep-deprived adults have shown to have less ability to cope emotionally, greater irritability, increased obesity, and higher risk of cardiovascular diseases.

Mental alertness, accuracy and ability to learn

Studies show that the degree to which chronic sleep deprivation lowers efficiency is often underestimated. Most people know that inadequate sleep makes them less alert and increases sleepiness, irritability, and fatigue. However, many do not know that a single sleepless night can impair performance as much as a blood alcohol level of 0.08-0.1 per cent (the legal limit for driving in many places).[1]

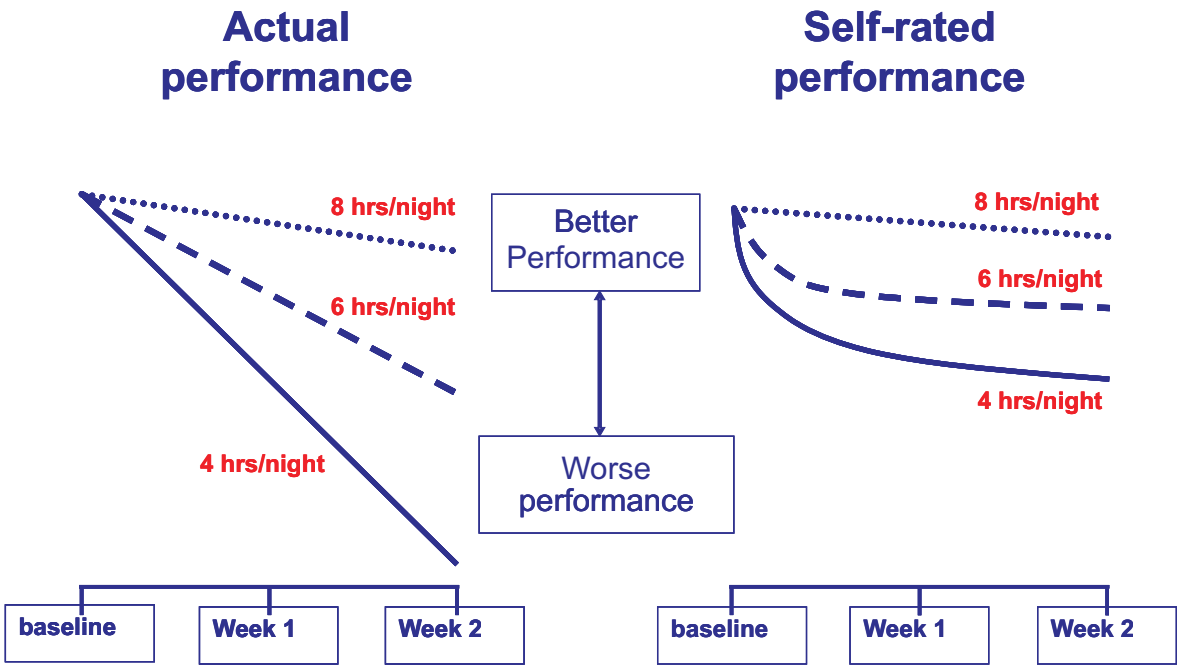


Figure 10.1: Chronic Sleep Restriction and Performance

[1] *Quality Sleep*, ILO.
Available at: http://www.ilo.org/safework/areasofwork/lang—en/WCMS_118392/index.htm

The cumulative effects of insufficient sleep are worse than many people think. In one study, participants performed gradually worse as they slept too little each night. However, in their own perception of their ability, they overestimated how well they were performing as they grew sleepier.

Quality and quantity of sleep

There are many factors that determine how much and how well a person can sleep at any given time. Some of them relate to individual characteristics and habits, while others are to do with the physical environment around the sleeper. Finally there are interpersonal factors, meaning the family and the social environment.

The individual

Timing of sleep and maintaining a schedule

Research demonstrates that people have natural cycles that govern sleeping and waking. At any given time, a person's alertness is based on four main elements:

Allowing the brain to refresh: the longer a person remains awake, the more the overall sleep drive increases. In a sleepy person, alertness can be restored for several hours by even a short nap, because it decreases this drive for sleep.

Avoiding a sleep "debt": not sleeping enough repeatedly, increases overall fatigue, which cannot be reversed by just one period of extra sleep. Studies of chronic insufficient sleep (four to six hours daily) show a decrease in mental alertness and performance, reducing productivity and damaging long-term health. In order to truly recover from the sleep debt and recuperate maximal alertness, most individuals require eight to ten hours of sleep every day for more than a week. In some cultures, a mid-day siesta has been the traditional way of avoiding sleep debt.

Sleeping at the right times of day: the circadian "body clock" produces a natural 24-hour cycle generated by special cells in the brain (Czeisler et al., 2005). This cycle synchronizes many body activities with each other and also with dark/light cycle of the environment. The circadian cycle naturally increases wakefulness at some times of day and sleepiness at other times. Once the body is in a certain rhythm, it can be extremely difficult to get restful sleep if a person then tries to sleep when the body clock has prepared them to be awake. Similarly, trying to be awake earlier is difficult because of the influence of the internal clock.

Having time to "warm up": immediately upon awakening, a sleep-like state called sleep "inertia" can persist for many minutes. Mental processes can be inefficient until the person awakens fully. Sleep inertia is worse for people who try to function on too little sleep. For them, there can be an especially difficult period of 30–60 minutes after awakening during which alertness is still quite low and mental processes are lethargic.

Avoiding harmful effects of drugs and medications, but using caffeine effectively

A modest dose of caffeine, such as in a cup of coffee, can help to reduce overall sleepiness.

New insights into sleep's restorative effects on body and mind need to be shared more widely. We now have a better understanding of how sleep is produced and regulated by the brain. These principles can be used to design more effective schedules and help people get healthy restorative sleep and obtain treatment for actual sleep disorders, when they need it. In addition to genetic and biological differences we can address factors like:

- family obligations and schedules;
- cultural traditions and routines;
- conditions of the local physical environment such as lighting, noise, and climate.

This information is very important for the world of work, because managing sleep properly is crucial for sustaining productivity and optimizing performance over the long term.

However, reliance on drugs or medications (including caffeine) either to reduce sleepiness or to promote sleep may be ill-advised in the long-term and create new problems, such as addiction. Combining alcohol with sleep deprivation multiplies the disastrous effects on safety.

Sleep disorders

People may be unaware of suffering from the following sleep disorders that lead to poor quality sleep or not enough sleep. It may be necessary to see a doctor about sleeping problems because many of these disorders can improve with medical treatment.

1. Difficulties breathing at night, sometimes but not always associated with frequent loud snoring, may be due to a sleep disorder called sleep apnoea. Typically, upper parts of the breathing passages may close or be obstructed as the muscle walls relax during sleep. Lack of oxygen getting into the blood causes a gasp or a reflexive breathing effort that lightens sleep (but may not wake the person fully). A sleep apnoea sufferer may have these brief interruptions scores of times each hour, leading to non-restorative sleep and many chronic illnesses.

2. Insomnia is difficulty getting to sleep or staying asleep at night, despite allowing enough time for sufficient sleep and good circumstances for sleep (like a quiet, dark place). Insomnia typically results in the person not functioning properly during the day both in terms of performance and dealing with other people.

3. Narcolepsy is a sleep disorder in which the person may quickly go limp and fall asleep, sometimes called 'sleep attacks'. It is caused by a sleep-wake switch in the brain that maintains wakefulness suddenly switching to dreaming sleep (REM sleep). Narcolepsy is frequently accompanied by excessive sleepiness during the

day. This sleep disorder is routinely mistaken for other problems, such as alcohol or substance use, or simply laziness.

4. Movements during sleep or just before sleep can disrupt sleep patterns. Frequent, involuntary movements of the arms and legs during sleep can be a sign of period limb movement (PLM) disorders. A disturbing and sometimes painful sensation in the legs combined with an urgent feeling to move them may be the result of Restless Legs Syndrome (RLS).

The physical environment

Sound sleep requires certain environmental conditions. Some people are more sensitive to the environment they sleep in than others.

Noise. Most people sleep best in a quiet environment. Research shows that intermittent or disruptive noise can cause individuals to reach only the lightest stages of sleep. It will also make most people more vulnerable to sleep inertia (difficulty waking up again) than those who slept the same length of time under quieter conditions.

Temperature and Humidity. Body temperature changes regularly during sleep which restores body and mind. In order to have deep and restful sleep, room temperature and humidity need to be comfortable for the subject. Muzet states that, for an uncovered semi nude person, thermoneutrality is around 32°C during sleep. However this temperature should be considered an average because of the existence of large differences between individuals (Muzet, 2007). Nevertheless, the comfortable ambient temperature may vary from 16°C to 25°C. Trying to sleep in an environment that is too cool or too hot reduces chances for success. For some people, getting the body temperature in the right range, such as by cooling on hot nights or by warming the hands and feet on cold nights, can produce deeper sleep.

Light. Most people sleep best in a dark environment. This can be important to shift workers or others who need to sleep during daytime hours. Because human activity increasingly fills the night time skies with light, it is harder for those living in or near cities to find darkness deep enough for sleep.

Safety. Many animals (including humans), are vulnerable to danger when asleep because they have nearly no conscious awareness of their immediate environment. If the environment is not secure, the necessary loss of conscious awareness can be difficult to achieve.

The social environment

Any workplace policy for promoting healthy sleep practices must acknowledge the important influence of family and community, because sleeping at home requires the cooperation of the people with whom we live. Parental duties and sharing a home with individuals who have different biological sleep needs, sleep capabilities, and life demands can be major obstacles to getting a healthy amount of sleep.

Larger social groups also have cultural practices that affect the environment in which a person can attempt to sleep. Communities often share customs, such as reducing activities during the heat of the day, having meals available only at certain hours, having loud celebrations at certain times of the week, and celebrating festivals or religious events at certain times of the year which may include staying awake at unusual times. For this reason, fixed workplace policies will not fit all people in all places. Increasingly, as populations move and the workplace includes mixed cultural groups, it takes skill to create a policy both flexible and fair. Some interesting new research states that there are differences in the way that we sleep that are dependent on ethnicity (Hale et al., 2007).

3. The impact of sleep on work, stress, mood and health

Work productivity and safety

Thinking and learning. Laboratory experiments show that sleep leads to improvements in people's memory. Sleep also makes skilled-motor movements better, like those used to play the piano, type on a keyboard, or any complex hand movements that improve with practice.

Paying attention, reacting quickly, making good decisions.

Certain common scheduling practices decrease worker and public safety both on the job and on the way home. Laboratory simulation of extended shifts, frequently rotating shifts, and overnight shifts without adequate sleep have all been shown to reduce productivity, increase error rates, and increase risks to workers.

The impact of sleep in work productivity and safety:

1. work errors,
2. reduced concentration and memory,
3. slower reaction time,
4. poor work performance,
5. accidents,
6. impaired thinking and learning,
7. reduced attention,
8. impaired decision making.,

Work and environment disrupts sleep because of:

9. short-term sleep deprivation,
10 jet lag (recreational and business),
11. night work.

Workplace schedules may conflict with optimal scheduling of sleep

Working at night and sleeping during the day is challenging for some people. Those who cannot tolerate such schedules may be excessively sleepy at night yet unable to sleep during the day. This is a sleep disorder called shift-work sleep disorder.

“Jet lag” is suffered by international business travellers as they rapidly cross time-zones, leading to symptoms like sleepiness during scheduled waking hours and difficulty sleeping during scheduled sleeping hours, stomach problems, irritability, and other chronic problems.

Workers on rapidly rotating shifts can suffer similar symptoms to jet lag where the body’s internal sleeping and waking activities do not match the person’s sleep and wake behaviour driven by their travel or work schedule.

Extended shifts or frequent shifts longer than 12–18 hours on a habitual basis or too close together make it nearly impossible to get adequate sleep and can pose significant safety and health problems.

Shift work and work injury

A New Zealand study found that workers on rotating shifts were more likely to be injured at work than other workers. Those most likely to suffer a work-related injury were obese men in heavy manual occupations who were working rotating shifts with nights, and working more than three nights a week. Snoring, apnoea or choking during sleep, sleep complaints, and excessive daytime sleepiness were also significantly associated with work injury.

Source: Fransen et al., 2006.

Lack of sleep is especially dangerous in some jobs:

As awareness grows regarding the vital role of sleep in safe and effective functioning, more attention is being paid to the sleep needs and schedules of workers in safety critical positions, such as airline pilots, nuclear plant operators, physicians and surgeons.

An analysis of fatigue-related crashes on Australian roads.

"Fatigue is thought to be one of the biggest killers on Australian roads, rivaling the effects of speed and alcohol. But the full extent of its role is not really known – unlike alcohol and drugs, fatigue can't be tested for in post-mortems."

Source: National Road Transport Commission, 2001.

The oil spill from the Exxon Valdez tanker in Alaska on 24th March 1989 is generally attributed to the alcohol consumption of the captain and to insufficient sleep by some staff. The junior officer at the helm had only six hours sleep in the 42 hours before the accident, and was unaware that the auto-pilot was engaged when the ship ran aground. Loss of situational awareness and a seemingly minor oversight are typical of sleepiness-related errors. Fortunately, these usually result in near-miss accidents, but they can cause catastrophic accidents.

The Australian Transport Safety Board came to similar conclusions. Pilots flying after they had been awake for a long time were found to have been involved in numerous small, but potentially deadly incidents, as well as, spectacular crashes or near-miss situations.[2]

Insufficient sleep also harms children, whose progress in school may be slowed down by decreased attention and hyperactivity. It is clear that sleep is important for good

2 "Fatigue is a Safety Threat" in *Flight Safety Australia*, September 2008, ATSB, pp. 54–55. Availabe at: http://www.atsb.gov.au/media/56960/fsa_0900.pdf

work performance in most occupations. The consequences of poor sleep may not be as dramatic for the cashier in the supermarket or for the school teacher, as for a pilot, but the negative impact on performance, morale and productivity over time is significant, and is potentially preventable.

ILO study finds shift-work poses increasing danger for miners

7 October 2002 – The mining industry, which has seen a marked decline in jobs in recent years, is employing shift workers in a manner that causes fatigue and could spell accidents, according to a study of the International Labour Organization (ILO). The report warns that fatigue can be as debilitating as drug or alcohol abuse on work performance. "Employees who exceed alcohol limits are generally prohibited from working, whereas a worker who has been awake for 18 hours or more shows the same symptoms but faces no such barriers," the study says.

Source: Shift work among miners causes fatigue and could spell accidents, ILO, 2002. Availabe at: http://www.un.org/apps/news/story.asp?NewsID=4950&Cr=mining&Cr1=minin

Much attention has been paid to the sleep needs of professional truck drivers. Single-vehicle, fatigue-related accidents rise dramatically in truck drivers after more than eight hours driving. A study by Mello et al. (2000) of interstate bus drivers in Brazil indicated that 60 per cent had at least one sleep-related complaint. Governments around the world are beginning to take action; recently the European Union passed two new directives regulating the hours of service for commercial drivers. Regulation (EC) No. 561/2006 of 15 March 2006 and Directive 202/15/EC from 2002 cover driving time, liabilities and control procedures and sanctions for commercial drivers on the one hand, and the organization of working time of persons performing mobile road transport activities on the other.

Work Stress and Mood. Sleep directly affects workers' attention on the job, overall mood and safety, and the ability to communicate effectively. Studies have found that sleep disruption and sleep deprivation result not only in decreased alertness and lowered concentration but also emotional irritability and anxiety. The impact of poor sleep clearly goes beyond traditional "safety critical" positions and affects the ability of all workers who are in contact with other people to do their jobs. This can be particularly important for those who work in direct contact with the general public, but it also impacts on co-workers.

Long-term health. An inadequate sleeping routine will impact physical health. Chronic sleep loss has the potential to cause serious problems, because it decreases the effectiveness of insulin signalling, the process of managing energy and metabolism levels in the body. Those who are less sensitive to insulin are in the long term more likely to suffer from obesity, type 2 diabetes, and heart disease.

Obesity. Insufficient sleep increases hunger and is associated with higher body weight in the long term. Sleep duration is also an important regulator of metabolism (how the body processes food) and thus body weight. Obesity has reached epidemic proportions in most developed countries. Obese persons are at a high risk of developing one or more serious medical conditions.

Diabetes. Chronic sleep loss can contribute to age-related illnesses like type 2 diabetes by either beginning sooner or by being more severe than they might otherwise have been. Presently, over 100 million people worldwide have type 2 diabetes. According to a study by Lavigne and colleagues, type 2 diabetes is associated with a reduction of productivity and there is a progressive increase in workdays lost as health status declines in the United States. The American Diabetes Association states that the annual cost of diabetes in 2007 within the United States, in medical expenditures and lost productivity, totalled $174 billion (American Diabetes Association, 2007). Additional estimates including undiagnosed diabetes, pre diabetes and gestational diabetes brought the total estimated cost to $218 billion. Unfortunately, most diabetes organizations do not mention sleep as a factor in the development of type 2 diabetes. Healthy sleep could be added to the growing list of preventative measures including weight control, regular exercise, and diet.

Cardiovascular Disease. Of all common diseases, cardiovascular disease (including high blood pressure, heart attack and stroke) costs companies the most in terms of lost productivity as a result of disability and death. Cardiovascular disease should be a concern to all employers, since a large proportion of the adult working population has high cholesterol and/or high blood pressure and is thus at an increased risk for heart disease. Sleep duration and sleep quality both play a role in cardiovascular disease. The sleep-heart relationship was discovered when it was observed that patients who underwent treatment for obstructive sleep apnoea had fewer cardiovascular disease-related incidents than untreated patients. During deep sleep, blood pressure is lower and heart rate is slower. Therefore, less deep sleep means that blood pressure is, on average, higher over a 24-hour period. Elevated blood pressure makes the heart work harder, which can lead to cardiovascular disease. In addition, the stress hormone cortisol is known to put stress on the heart, and sleep deprivation is correlated with higher levels of cortisol in the bloodstream.

In addition to nightly sleep, daytime siestas also appear to be protective for the heart. Androniki et al. (2007) reported that those who took regular 30-minute siestas were 37 percent less likely to die of heart disease over a six-year period than those who never napped. The scientists tracked more than 23,000 adults, finding that the benefits of napping were most pronounced for working men.

4. Managing Healthy Sleep for Work Performance

Dealing with Sleep at the Organizational Level

At an organizational level, skillful management of worker schedules can save money by decreasing health care costs, reducing mistakes and accidents, and increasing overall productivity. Research demonstrates that people who do not get enough good quality sleep suffer from the following problems which all impact significantly on both the worker and the employer:

- mental errors;
- irritable mood;
- difficulty paying attention; and
- degrading health problems.

Trying to sleep at times when the body cycles are not set for sleep will rarely result in sleep which restores full alertness and vigour.

Time scheduling and workplace adjustments provide the opportunity for workers to have a healthy pattern of activity and rest. Encouraging workers to routinely obtain a sufficient amount of sleep can increase productivity, promote safety in the workplace and enhance the quality of life for workers. Simple factors like daily schedule, timing of sleep, and environmental conditions in the sleeping room can make a big difference in quality of sleep for many people.

Sleep is a personal and family matter. Encouraging workers to take measures together with their family members to weave healthy sleeping habits into home life can help everyone sleep better. Learning more about healthy sleep may also allow some workers to identify and resolve actual sleep disorders, with medical attention if necessary.

Healthy sleep is also a public health concern. Health care services may provide meaningful guidance designed to promote healthy sleeping practices.

Government action

Many national governments have regulations concerning hours of work for certain industries and occupations, although they can vary considerably. Particularly for safety critical jobs governments often intervene to set up recommendations or legislation to ensure safe working time arrangements (hours of work, night work and shift-work) that allow for enough rest and recovery. One area where this is widely the case is hours of work in commercial driving.

The Governments of Australia and New Zealand for example, set up a Fatigue Expert Group to advise it on best practice for hours of work in the road transport industry. In February 2000 the National Road Transport Commission of Australia, the Australian Transport Safety Bureau and the New Zealand Land Transport Safety Authority jointly sponsored the establishment of a fatigue expert group to develop options for the medium term development of prescriptive hours of driving and work in the road transport industry. The fatigue expert group included leading Australian and New Zealand experts in sleep, shift work and road safety, who collaborated with the participating agencies and industry representatives to design a set of evidence-based principles for regulatory options.

The fatigue expert group's approach:

The framework proposed by the fatigue expert group needs to be supported by measures to promote fatigue management. These measures include education, information, training, road treatments, technological aids and financial incentives/sanctions through workers compensation, vehicle insurance and safety management regimes.

The management of driver's fatigue is not a matter for operators and drivers alone, the fatigue expert group emphasised the requirements and practices of others in the transport supply chain. The chain of responsibilities in current road transport legislation is designed to highlight that on-road performance is closely related to the decisions made by customers, consignors and loaders.

There are significant structural arrangements in the social and economic profile of the transport industry for scheduling, trip planning and consequent driver practices that increase fatigue related risks. Competitive pressures, payment systems, contracting arrangements and even the unintended consequences of the current driving hours regime are combined to create an environment in which fatigue has become an accepted part of industry practice.

The expert group was conscious of the need to provide a flexible and practicable framework in which fatigue could be actively managed by all those who are part of the supply chain.

The model of fatigue used by the expert group was centred on three primary factors that contribute to, and explain driver fatigue:

- the need to ensure that drivers have adequate opportunities to sleep;
- the need to take account of the circadian biological rhythms, which imply that drivers cannot work or sleep equally well at all times of the day and night;
- the need to address fatigue from work demands, including the duration of work and the availability of breaks during work, which offer the opportunity for temporary recuperation from the effects of fatigue.

Source: National Road Transport Commission, 2001.

Hours of Work

Excessive hours of work should be limited and adequate periods of rest and recuperation should be provided, including weekly rest and paid annual leave, in order to protect workers' health and safety. Extended working hours and irregular or unpredictable hours should be avoided.

An organizational culture of working long hours and overtime should not be encouraged. Measures for progressively reducing hours of work should be applied as a priority in women and young workers and in industries and occupations which involve a particularly heavy physical or mental strain or which presents health risks for the workers.

Shift-Work and Night Work

Scientific literature concerning shift work and sleep disorders has reported strong evidence of cardiovascular disorders, of gastrointestinal disorders and some evidence of reproductive disorders. In most cases, night work increases the risk of health disorders.

The analysis of accident data in some countries indicates a rise in accident rates after nine hours of work. Experimental data from cognitive psychology predicts an increase in worker errors after eight hours of work.

Managing work organization for healthy sleep

Tips for non-shift work:

- do not encourage working long-hours and overtime;
- establish non-intrusive way of registering hours worked;
- provide supervisors with necessary training;
- have flexible working hours, where possible;
- set up an assistance program;
- incorporate cultural practices and norms into workplace policies and practices.

Tips for shift work:

- no "one size fits all" strategy;
- practical and realistic approach;
- guidelines on the use of double shifts;
- identify ways to meet extra staffing needs as an alternative;
- offer commuting assistance after late or long shifts;
- ensure optimal conditions of sleeping facilities on site;
- manage the use of financial incentives;
- allow for the fact that individuals have different levels of tolerance for extended wakefulness (long shifts).

5. Good Practices

Different workplace strategies relating to night work and shift work are needed according to the type of work done in the enterprise or organization. There is no single solution for all workplaces. If shift-work is the only option, an ideal pattern of shift work needs to be chosen keeping in mind the exact goals and needs of an organization and the health and safety of its workers. Ideally each organization needs to apply national regulations and identify best practices to find optimal strategies for their particular situation. Whatever the organization decides, the approach used needs to be practical and realistic in order to incorporate healthy rest and sleep needs into the workplace OSH policy. Iintervention measures include:

1. Measures which focus on work schedule organization, such as the optimum number of hours, optimal start and stop times, the optimum speed of shift rotations, optimal rest breaks, the limitation of overtime, and the limitation of night work.
2. Measures which focus on aspects of the working environment such as lighting, the adjustment of temperature, reductions in physical workload (where possible), and the availability of workplace facilities (e.g. catering, transportation) during non-standard working hours.
3. Measures which concentrate on modifying the responses of the individual workers via training and education, including sleep management, health promotion (e.g. diet, exercise), and counselling and stress management.

If shift work needs to be applied, it would be advisable to keep in mind the following specific measures which have shown to be effective in reducing the potential negative effects of working time arrangements; these are based primarily on the available evidence regarding shift working:

- workers should be consulted about the organization of their working time and agreement should be meet on the measures taken;
- where shift work is introduced as a new form of work organization, workers should be informed, and knowledge and attitudes to shift work should be assessed during a preparatory phase. An awareness campaign may be useful prior to developing policy. Provision should also be made for individual assistance as needed;
- night work should be avoided or limited where possible;
- unpredictable or irregular hours should be avoided or limited where possible, especially when other risk factors are present (e.g. long hours, circadian – daily sleep cycle – disruption, other sources of stress);
- overtime should be limited, distributed among workers, and should not become a routine. Where possible, overtime should be avoided where jobs are highly stressful either physically or mentally;

Recommendations from an expert group on working time and safety and health

(1) Creating a more appropriate work schedule;

(2) modifying the working environment; and

(3) health training and counseling where appropriate.

The following specific measures should be applied in each of the three areas mentioned above:

- Creating a more appropriate work schedule.
- Night work is best avoided or limited where possible.
- Unpredictable, irregular hours, particularly where these are beyond the worker's control, should be avoided if possible, or limited.
- Overtime should be limited, distributed between workers, and not routine.
- Where shifts rotate, forward rotation (clockwise) is preferable. Weekly shift rotation is undesirable. Slow rotation (2-3 weeks) is likely to produce an adjustment in the sleep cycle (e.g. an adjustment to working at night and sleeping during the day).
- Fast rotation (1-2 days) maintains workers on a normal circadian (daily sleep) cycle. Adjustment in the sleep cycle is preferred for workers whose jobs are routine and therefore particularly susceptible to fatigue effects.
- Jobs which are mentally stimulating are less susceptible to fatigue effects and probably more suited to schedules where sleep cycle adjustment does not occur.
- Traditional starting times for shifts, notably 6 a.m. for the morning shifts, may not be optimal. Later starts (7-8 a.m.) should be considered.
- Shift changeover times are vulnerable points in terms of errors and accidents.
- Evidence relating to 12-hour shifts is largely positive, given certain conditions.
- Where work is extended beyond an 8-hour period, a re-assessment of other occupational risks (e.g. chemical, ergonomic, etc.) should be carried out.
- The participation of workforce representative in the design of work schedules is highly recommended.

Source: Spurgeon, 2003.

- a system of health surveillance should be in place for those working non-standard hours;
- where work extends beyond an 8-hour period, a re-assessment of physical and chemical health risks should be conducted and a reliable accident monitoring systems should be in place;
- shifts should be scheduled across days, weeks, or months to balance short-term costs and benefits against long-term risks and potential declines in the health of workers and productivity. Care should be taken in shift schedule design to minimize fatigue. The order of rotation of shifts, how many teams of workers to include in a rotation and how to meet extra staffing needs in the case of staff shortages should also be considered;

- how many hours can be worked within a certain period of time should be restricted, and procedures to assist workers who regularly go over the limit should also be in place. This can only work in a context of reasonable workloads and deadlines;
- a non-intrusive way of registering hours worked should be integrated in consultation with workers and their representatives, including how the information is to be stored and used. This way it can be seen as a positive contribution to workers' health and not as excessive surveillance;
- good facilities for catering, transport and health and safety should be made available for all work schedules. Offer commuting assistance for night-time or morning trips following late or overly-long shifts. If there are sleeping facilities on site, optimal conditions for good sleep should be ensured (for example lighting, noise levels);
- flexible working hours should be allowed, as far as the enterprise needs allow, so workers can meet work needs, rest and sleep needs, and family needs;
- an assistance programme can be set up, where the counsellors are knowledgeable about rest and sleep needs, and apply principles of confidentiality and non-discrimination when dealing with private information;
- supervisor training becomes essential on how to manage well so that the work gets done without infringing on workers' rest and sleep needs. Supervisors may also need extra training on how to manage the delicate overlap between work and home, if there are problems with work-family balance;
- incorporating cultural practices and norms into workplace policies and practices will contribute to better adaptation.

6. Interrelationships

Sleep and Lifestyle

Long hours of work appear to be associated with increased prevalence of somatic symptoms and health threatening coping behaviors, such as increased smoking and poor and irregular diet. Some workers have reported adverse effects on family relationships, particularly where hours are in excess of 50 per week.

Insufficient sleep can put workers at risk. One study has shown for example that the risk of going to hospital for an injury, such as a broken bone from a fall, increases as sleep falls below seven hours a night. Excess alcohol consumption, tobacco use, and recreational drug use can diminish the restorative aspects of sleep and contribute to insomnia or other sleep disorders.

Alternatively, healthy habits support each other. Regular physical activity that improves fitness may improve sleep, and loss of excess body weight can improve sleep disorders such as sleep-disordered breathing.

Sleep and Stress

Regularly working in excess of 48 hours per week appears to constitute a significant occupational stressor which reduces job satisfaction, increases the effects of other stressors, and significantly increases the risk of mental health problems. Regularly working more than 60 hours per week, appears to increase the risk of cardiovascular disease.

Most people remember times when they had trouble falling asleep because of stressful life issues. What may be less clear is that lack of sufficient sleep can also diminish our ability to solve problems and get along with others, worsening stress, and potentially increasing the risk of psychological (or even physical) violence between irritable, sleepy people at work.

7. Policy Integration

Integrating sleep concerns into an occupational safety and health policy addressing health promotion issues will mean including a number of overarching elements which, while relevant to all psychosocial problems, are of particular importance when it comes to sleep. Some of these are detailed below:

Work organization

In terms of sleep, work organization refers both to the hours worked, and what happens during work time. If the workplace requires shift work, this should be organized according to the latest scientific and medical recommendations to maximise both worker's health and enterprise productivity. During work time, work should be organized as to allow workers to have enough time to complete their tasks. This means assigning the right tasks to the right person, and providing them with the means to do the job. Tight deadlines can be motivating, but unrealistic deadlines cause excessive overtime, stress and loss of sleep, which reduces productivity rather than increasing it.

Risk assessment and management

If work-related factors are stopping staff from getting enough healthy sleep, this is a risk that the enterprise needs to assess and manage. In safety critical positions the risks are related to the health and safety of staff and of the general public. The risks may also be related to product quality and good decision-making.

Social responsibility

Particularly where work involves a significant safety risk, such as driving, piloting an aircraft, and operations in hazardous installations such as chemical plants, nuclear power plants or work in public health structures, there is a clear responsibility towards the general public. Socially responsible organizations should ensure that workers' sleep needs are met in order to be able to work safely. The consequences of not doing so can be catastrophic in terms of lives lost and the organizations' reputations.

Training, education and information

There is much misinformation and myths about sleep needs, as well as pressure from supervisors and peers, that may lead to workers building up sleep debts. Workers need to know how to manage their own sleep, and supervisors and managers need to be well-informed about rest and sleep needs and the benefits of organizing work in such a way that it does not restrain workers' rest and sleep.

Assistance, support, treatment

In some cases workers will need assistance in managing their working time and sleep, or even require treatment for a sleep disorder. Employers can sometimes be active in providing assistance or treatment, access to information about potential solutions.

Confidentiality

Because sleep is an issue that cuts across the border between work and private life, it is absolutely essential that any exchange of information meets the workers' requirements for confidentiality. It should be up to workers to determine how much information about their private life becomes known to the management of the organization, and there should be alternative means of sharing relevant information without it becoming public if the worker so wishes, such as worker representation or a peer counselling service.

Worker involvement and consultation

To adequately organize working time, management and workers need to be aware of each other's needs and to work towards a mutually acceptable solution. Workers or their representatives need to be part of such consultations, and need to be involved in any long-term changes.

Continuous improvement

No organization is static, but is open to changes from internal and external influences. Any policy needs to be periodically reviewed and updated to ensure that it meets requirements. This way an organization can engage in a cycle of continuous improvement on occupational safety and health.

Health promotion

Many enterprises are recognizing the benefits of promoting the health of their workers in addition to preventing occupational accidents and diseases. Encouraging good rest and sleep practices and providing information can be part of an overall health promotion campaign.

Bibliography

- Åkerstedt, T. 2007. "Interaction between Sleep and Stress in Shift Workers" in D. Léger and S.R. Pandi-Perumal (eds.): *Sleep Disorders: Their Impact on Public Health* (London, Informa UK Ltd.), pp. 101–114.

- Amundsen, A.H.; Sagberg, F. 2003. *Hours of service regulations and the risk of fatigue- and sleep-related road accidents* (Oslo, TOI).

- Ancoli-Israel, S.; Cooke, J.R. 2005. "Prevalence and comorbidity of insomnia and effect on functioning in elderly populations" in *Journal of the American Geriatric Society*, Vol. 53, No. S7 (Suppl.), pp. s264–s271.

- Androniki, N. et al. 2007. "Siesta in Healthy Adults and Coronary Mortality in the General Population" in *Archives of Internal Medicine* Vol. 167, No. 3, pp. 296–301.

- Ayas, N.T. et al. 2003. "A prospective study of sleep duration and coronary heart disease in women" in *Archives of Internal Medicine*, Vol. 163, No. 2, pp. 205–209.

- Belenky, G. et al. 2003. "Patterns of performance degradation and restoration during sleep restriction and subsequent recovery: a sleep dose-response study" in *Journal of Sleep Research*, Vol. 12, No. 1, pp.1–12.

- Cizza, G.; Skarulis, M.; Mignot, E. 2005. "A link between short sleep and obesity: building the evidence for causation" in *Sleep*, Vol. 28, No.10, pp. 1217–1220.

- Colten, H.R.; Altevogt, B.M. 2006. *Sleep Disorders and Sleep Deprivation: An Unmet Public Health Problem* (Washington, D.C., Institution of Medicine of the National Academies).
  Available at: http://www.iom.edu/CMS/3740/23160/33668.aspx

- Czeisler, C.A.; Buxton, O.M.; Khalsa, S.B. 2005. "The human circadian timing system and sleep-wake regulation" in M. Kryger; T. Roth; W. Dement (eds.): *Principles and Practices of Sleep Medicine* (Philadelphia, Saunders).

- Fenwick, R.; Tausig, M. 2001. "Scheduling stress: family and health outcomes of shift work and schedule control" in *American Behavioural Scientist*, Vol. 44, No. 7, pp. 1179–1198.

- Fransen, M. et al. 2006. "Shift work and work injury in the New Zealand Blood Donors' Health Study" in *Occupational and Environmental Medicine*, Vol. 63, No. 5, pp. 352–358.

- Hale, L. 2005. “Who Has Time to Sleep?” in *Journal of Public Health*, Vol. 27, No. 2, pp. 205–211.

- Hale, L. et al. 2007. “Does the Demography of Sleep Contribute to Pre-existing Health Disparities?” in D. Léger and S. R. Pandi-Perumal (eds.): *Sleep Disorders: Their Impact on Public Health* (London, Informa UK Ltd.), pp. 1–18.

- Hartenbaum, N. et al. 2006. “Sleep Apnoea and Commercial Motor Vehicle Operators: Statement From the Joint Task Force of the American College of Chest Physicians, American College of Occupational and Environmental Medicine and the National Sleep Foundation” in *Journal of Occupational and Environmental Medicine*, Vol. 48, No. 9(s1).

- Knutsson, A. 2003. “Health disorders of shift workers” in *Occupational Medicine*, Vol. 53, No. 2, pp. 103–108.

- Kripke, D.F. et al. 2002. “Mortality associated with sleep duration and insomnia” in *Archives of General Psychiatry*, Vol. 59, No. 2, pp.131–136.

- Lavigne, J.E. et al. 2003. “Reductions in individual work productivity associated with type 2 diabetes mellitus” in *Pharmacoeconomics*, Vol. 21, No. 15, pp. 1123–1134.

- McEwen, B.S. 2006. “Sleep deprivation as a neurobiologic and physiologic stressor: allostasis and allostatic load” in *Metabolism*, Vol. 55 (Suppl. 2), pp. s20–S23.

- Mello, M.T. et al. 2000. “Sleep patterns and sleep related complaints of Brazilian interstate bus drivers” in *Brazilian Journal of Medical and Biological Research*, Vol. 33, pp. 71–77.

- Muzet, A. 2007. “Sleeping Environments” in D. Léger and S. R. Pandi-Perumal (eds.): *Sleep Disorders: Their Impact on Public Health* (London, Informa UK Ltd), pp. 67–77.

- National Road Transport Commission. 2001. *Driver Fatigue: A survey of long distance transport companies in Australia* (Parliaments of Australia and New Zealand, Australian Transport Safety Bureau).

- O'Connor, P.J. et al. 2004. *FIMS position statement on air travel and performance in sports* (Fèdèration Internationale de Mèdecine du Sport Position Statement No. 16), pp. 1–12.
  Available at:
  http://www.fims.org/files/311417173/PS16%20Air%20travel%20March%202004.pdf

- Spiegel, K. et al. 2002. “Effect of Sleep Deprivation on Response to Immunization” in *Journal of the American Medical Association*, Vol. 288, No. 12, pp. 1471–1472.

- Spurgeon, A. 2003. *Working time: Its impact on safety and health* (Geneva, ILO, Occupational Safety and Health Research Institute, Korea Occupational Safety and Health Agency).
  Available at:
  http://ilo-mirror.library.cornell.edu/public/english/protection/condtrav/pdf/wtwo-as-03.pdf

- Van Dongen, H.P.A. et al. 2003. “The cumulative cost of additional wakefulness: Dose-response effects on neurobehavioral functions and sleep physiology from chronic sleep restriction and total sleep deprivation” in *Sleep*, Vol. 26, No. 2, pp.117–126.

- Zee, P.C.; Turek, F.W. 2006. “Sleep and health – everywhere and in both directions” in *Archives of Internal Medicine*, Vol.166, pp.1686.

Websites

- American Diabetes Association
  http://www.diabetes.org/diabetes-basics/diabetes-statistics/

- Australian Transport Safety Bureau; National Road Transport Commission
  http://www.atsb.gov.au/media/36067/fatig_trans_9.pdf
  http://www.science.org.au/nova/074/074key.htm

- Australian, Transport Safety Bureau, Air Safety Investigations
  http://www.atsb.gcov.au/media/56960/fsa_0900.pdf

- European Commission, Directorate-General Transport and Energy, Study on Fatigue
  http://ec.europa.eu/transport/road_safety/specialist/knowledge/pdf/fatigue.pdf

- Insurance Institute for Highway Safety
  http://www.iihs.org/laws/comments/pdf/fmcsa_ds_bon_060702.pdf

- ILO Safework, Quality Sleep
  http://www.ilo.org/safework/areasofwork/lang—en/WCMS_118392/index.htm

- Shift work among miners causes fatigue and could spell accidents
  http://www.un.org/apps/news/storyAr.asp?NewsID=4950&Cr=mining&Cr1=

- Sleep Resources for the public, patients, and clinicians; Harvard Division of Sleep Medicine
  http://sleep.med.harvard.edu/

Economic stress

Psychosocial risks in times of change

1. Introduction

A person's job is often an extremely important part of their life.

For most people, their job is first and foremost a way of providing income to support themselves and their family, but also much more than just that.

When asked: "Tell me about yourself", people will frequently respond by talking about their job. Typical workers will spend at least half of their lifetime at work, involving more hours than are spent with family or on personal and/or leisure activities. Therefore, it is not surprising that a person's job often becomes an integral part of their identity.

Given the importance of a secure income and a secure job, it is not surprising that the potential loss of either one can have negative effects for workers, their families, and their employing organizations.

2. Understanding economic stress

What is economic stress?

As discussed in Chapter 3, stress is an imbalance between the perceived demands and the perceived resources and abilities of a person to cope with those demands. Work-related stress is the harmful physical and emotional response that occurs when the demands of the job do not match or exceed the capabilities, resources, or needs of the worker. Economic stress then, according to a report by the ILO on economic security, refers specifically to stress that is associated with the risk or uncertainty regarding one's financial situation. In the workplace, economic stress can result from working several jobs in order to make ends meet. Workers may experience economic stress if their company is downsizing, restructuring, or merging with another company. In the worst case, workers may suffer from economic stress if they become unemployed. Economic stress can affect a person's psychological and physical health.

There are many different types of economic stressors that workers may be exposed to. Three of the most important economic stressors are: unemployment, underemployment, and job insecurity. Unemployment involves a loss (or lack) of employment and a loss of income. Someone can be considered unemployed if they are not working but are actively seeking employment (this is the standard definition used by the ILO to compile unemployment statistics). Unemployment can have serious consequences for the unemployed individual, their family, and society. Given the impact of unemployment, most governments closely monitor the level of unemployment in their country.

Underemployment can be thought of as the extent to which one's current employment situation falls short of one's idea of "satisfactory employment". Most often, underemployment occurs either because workers are underpaid for their work, or because they are asked to work fewer hours than they would like. However, for the purposes of this chapter, workers may be considered underemployed if any of the following conditions are met:

(1) the worker possesses more formal education than the position requires;

(2) the worker is more highly skilled and has more work experience than is required for the job;

(3) the worker is involuntarily employed outside his or her area of formal training;

(4) the worker is involuntarily employed on a part-time, intermittent, temporary, or otherwise contingent basis; or

(5) the worker's wages are 20 per cent less than what had been earned previously or 20 per cent less than is typical for a given level of experience and skill;

(6) the worker is self-employed in the informal economy.

Examples of underemployment

- Xiao Ping earned a college degree in public administration. After applying for dozens of jobs with no success, she accepted a position working as a secretary for a local manufacturing company. She is unhappy about not working in her field, but feels she had no other choice but to accept this job.
- After working for 20 years as a computer programmer, Ivan was recently laid-off during a round of downsizing in his company. In order to make ends meet, he accepted an entry-level programming job that pays half as much as his former job.
- Rosa's employer primarily hires workers on temporary contracts and has only a few permanent positions. Rosa has been employed for under one year and is afraid she will be let go, rather than hired permanently by the company.

Job insecurity occurs when workers perceive their job to be unstable or at risk. In other words, job insecurity can result from a **potential** loss of employment and or a **potential** loss of aspects that the worker values about their job.

By its very nature, job insecurity is a very subjective notion. Two individuals employed in the same position in the same company may have very different perceptions regarding their job security. One may be worried about losing her job, whereas her coworker may not share those worries. Yet, that insecurity is a real economic stressor for the first worker and can have very negative consequences for the worker and her organization.

Although any kind of economic stress is bad for individuals, the three economic stressors mentioned so far (unemployment, underemployment, and job insecurity) can be placed in order from most to least damaging. In addition, these stressors can be ordered according to which ones affect the least to the most people. For example, unemployment is the most damaging form of economic stress, but thankfully, in most countries, relatively fewer people are exposed to this stressor than to job insecurity. Job insecurity, on the other hand, has fewer negative consequences, but it affects a much larger portion of today's workers than unemployment.

These economic stressors can also be ordered from most to least visible. It is relatively easy to say when someone is unemployed, but there is less agreement on what it means to be underemployed and there are even fewer objective standards to identify an insecure job. Yet, all of these conditions can be sources of economic stress and all can have significant implications for those affected.

Prevalence	Type of Stressor	Level of Stress
	Unemployment	**STRESS**
	Underemployment	**STRESS**
	Job insecurity	STRESS

Resources are often targeted toward the more visible economic stressors. For example, government programmes may offer unemployment benefits when a person becomes unemployed. However, there are fewer programmes or benefits made available to someone who is underemployed or in a position with high job insecurity. As a result, these people often "fall through the cracks" and there are few government or organizational programmes that address the causes or consequences of these economic stressors.

What causes economic stress?

Many different factors can lead to workers experiencing economic stress, either by being laid-off, by being underemployed, or by perceiving that their job is insecure. These factors can be summarized into four categories: economic factors, organizational change characteristics, worker characteristics, and employment characteristics. Any one of these factors can cause workers to experience economic stress.

Economic factors lead to economic stress. When the state of a country's economy is poor, rates of unemployment increase. As the state of the economy worsens, the likelihood of underemployment also increases, due to low levels of job creation and a scarcity of high-wage jobs. Finally, as the economy continues to worsen and news of mass layoffs loom large in the public eye, worker perceptions of job insecurity are also likely to rise. Depending on their stage in development, some countries experience near-permanent economic difficulties.Workers in these countries have correspondingly high levels of economic stress.

Organizational change characteristics refer to downsizing (reducing the size of the workforce), re-organizations, changing technology and changes in the ownership of the enterprise, such as mergers and acquisitions. Formal announcement of layoffs, an upcoming merger or acquisition, organizational restructuring, and/or downsizing are all potential organizational change characteristics that may increase job insecurity and lead to job loss or underemployment. Every year, millions of people around the globe lose their job as a result of these types of organizational changes.

These changes also cause worries among remaining workers. Fears of job loss and layoffs are the most common consequences of mergers among both line level workers and senior executives. In addition, workers often feel that these organizational changes will negatively affect their job security, future pay, and opportunities for advancement.

Another example of organizational change that can lead to economic stress is changing organizational technology. Today's businesses often find that they must rapidly change to keep up with new technologies. This means their workers must keep up, too. A change in the technological systems of an organization can have a profound effect on the employment security of individuals who directly and indirectly work with the technology in question. For example, increased use of computers has changed the job description of many workers and often requires new skills.

As organizational technology becomes more complex, so do the skills requirements for the workers. Workers who cannot adapt to the change or whose skills are no longer

required may find that they are at risk of losing their job. Therefore, technological change can increase job insecurity and can eventually lead to job loss for those workers who skills or positions are out-of-date and no longer required.

As organizational technology becomes more advanced and as organizations adopt more flexible labour relations, highly-skilled workers may be forced to take pay cuts or accept lower-level positions just to keep their jobs. If workers are laid-off, high competition for a new job may force them to accept pay cuts or demotions in order to find re-employment, leading to even greater levels of economic stress.

Worker characteristics refer to a variety of individual differences that increase a worker's chances of being laid-off, perceiving their job is insecure, or being underemployed. For example, workers differ in terms of their gender, ethnicity, education level, type of contract (permanent, limited length, part-time or full-time), and career history. In some countries, workers may be treated equally regardless of these characteristics, especially if there are laws requiring this. However, in many countries, workers may find that they are more vulnerable to economic stress if they are part of a minority, have less education or fewer years on the job or if they have an uneven career history.

Women and Pregnancy

A Unique Case

In many countries, there is no legal protection against employment discrimination on the basis of pregnancy or expected pregnancy. This can result in greater economic stress for women.

For example, a recent study by the ILO found that 1 in 6 women in Ashanti - Ghana - reported being fired due to pregnancy. Others reported not being hired because of the fear that they might become pregnant in the future.

Source: ILO, Economic security for a better world, 2004.

For example, government data provided by the U.S. Bureau of Labor Statistics show that the rate of unemployment is traditionally higher among ethnic minorities than among Caucasians in the United States. Among African-Americans, the rate of unemployment has typically been double that of Caucasians. Workers of Hispanic ethnicity also face consistently higher levels of unemployment than Caucasians (Bureau of Labour Statistics, 2010).

While the actual rates of unemployment for women are not higher than for men in the United States, research indicates that women and minorities tend to experience higher levels of underemployment than men. In addition, if they do become unemployed, they tend to remain unemployed for longer periods of time.

Workers who have been with a company for shorter periods of time may experience greater economic stress than workers who have worked for the company for more time. Often, organizations will adopt a "last hired, first fired" strategy, which results in newer workers being laid-off before more senior workers. While some older workers are less

likely to be made redundant than their younger counterparts due to seniority protections, older workers typically face more difficultly in finding employment if they do lose their jobs.

A person's career history can also affect their vulnerability to economic stress. Workers who have been fired in the past, have been unemployed for longer periods of time, or are "career-plateaued" (i.e. have not moved into a more senior post within what is seen as the usual time-frame) are more likely to face underemployment. In many societies, there is a negative stigma associated with having been laid-off which causes potential employers to wonder if something is "wrong" with an applicant who has been dismissed in the past.

Finally, education appears to provide a certain amount of protection against economic stress. Individuals with more education typically tend to hold positions of greater power within organizations and perceive their job to be more secure than individuals with little education. In addition, research indicates that workers with more education tend to experience fewer layoffs and less underemployment than their less educated counterparts.

Employment characteristics refer to the contractual relationship that an worker has with his or her organization. This includes whether the worker is employed on a temporary or contingent basis instead of a permanent one; whether the worker is employed part-time or full time; and whether the job falls under union jurisdiction. Non-binding, temporary, or part-time contracts can result in lower job security, greater underemployment, and a higher likelihood of becoming unemployed since these types of contracts implicitly suggest a briefer stay with the organization than a binding, permanent, full-time contract would. In addition, these types of contractual arrangement often pay less and offer fewer worker benefits such as retirement and health benefits than permanent or full-time arrangements.

Outsourcing is another organizational trend that has implications for job insecurity, underemployment, and unemployment. Outsourcing occurs when certain organizational functions are handled by external services. For example, instead of hiring and training in-house security staff, the enterprise buys the services of a separate security company. Between 1996 and 2001, businesses in the United States tripled their use of outsourcing and spent more than US$300 billion on outsourced services. As many as 14 million white-collar service jobs in the United States are currently at risk of being outsourced to workers and organizations located outside the U.S. While this may have negative implications for workers in the United States, this same trend has had positive effects on workers in many developing countries. Places like India, the Philippines, Malaysia, Vietnam and Eastern European countries, including Hungary and Poland, have experienced a boom in jobs as a result. For example, more than 250,000 workers in India have become employed due to outsourcing from the United States. Providing outsourcing services in India has brought over US$2 billion into the country (Bardhan; Kroll, 2003). Therefore, what may be viewed as a negative trend in one country may have beneficial effects for another in terms of economic security.

The consequences of economic stress affect us all

Because any worker may become unemployed, underemployed, or experience job insecurity, the consequences of economic stress can affect all of us. In addition, workers do not experience the effects of economic stress in isolation from other people. Co-workers, family members, and society at large can be affected.

In order to understand why economic stress can have such negative effects, it may help to first consider why employment is so important even beyond the basic need to earn a living wage. Some researchers have concluded that just as we need certain vitamins and minerals to maintain our physical health, there are other "vitamins" that are required for optimal psychological health. According to Warr's "vitamin model" of work and unemployment, individuals require nine environmental "vitamins" in order to stay psychologically healthy. Two of these "vitamins" are the very basic needs of money and physical security. In addition, workers need a number of "vitamins" related to what they do in their work: variety, opportunities to use the skills they have, a degree of control over what they do, externally generated goals to pursue, and environmental clarity, which means knowing what their role is and how it will develop in the future. Finally there are social "vitamins", such as opportunities for contact with other people, and having a valued social position. When individuals are "deficient" or "malnourished" in these vitamins, poor psychological health can result.

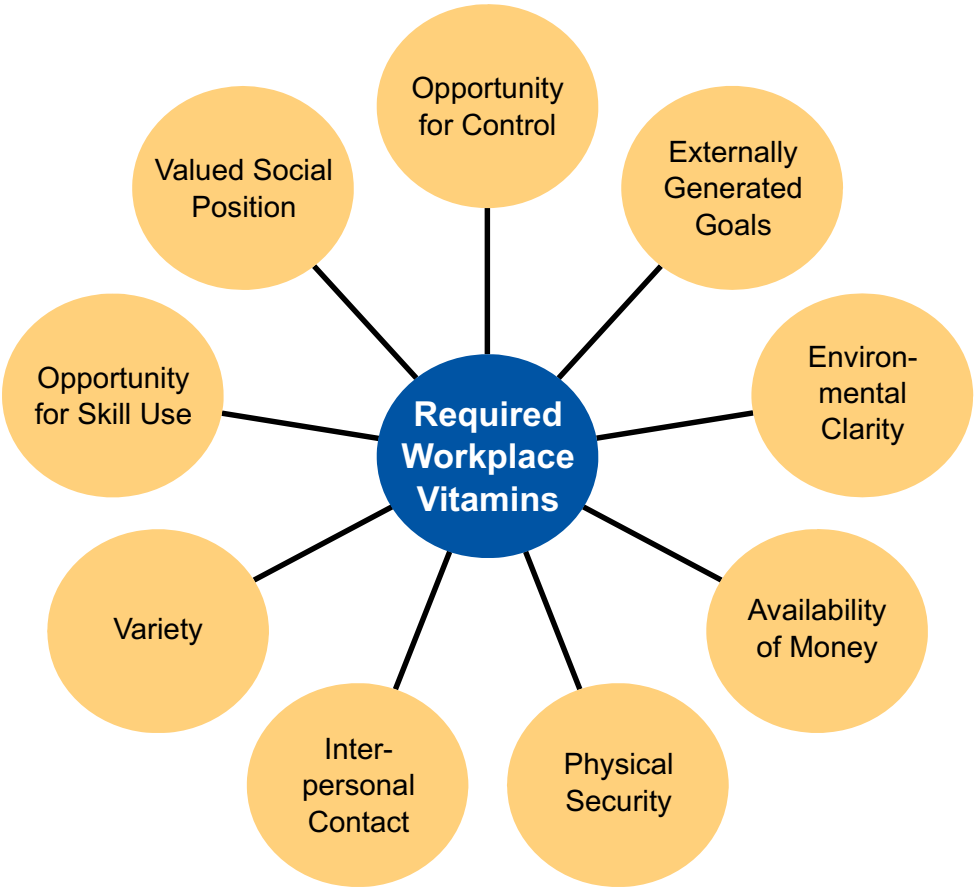


Figure 11.1: Warr's Vitamins model of work and unemployment, 1994.

While some of these "vitamins" can be obtained outside of a job, many of them are threatened or diminished under conditions of unemployment, underemployment, and job insecurity. For example, unemployed individuals lose income and social position when they lose control over their employment status. Their skills are no longer utilized, and the external structure and opportunities to meet other people at work are gone. Underemployed individuals are similarly "malnourished" with respect to their work-related "vitamin needs". The skills of underemployed individuals are frequently underutilized; and their income and social position are often reduced. Job insecurity often brings with it a loss of control over one's employment security, low environmental clarity about one's role in the organization at present and in the future and anticipated loss of income.

Based on the vitamin model, one would expect economic stress to have overwhelmingly negative consequences because these "vitamin" needs are compromised. Research has found that individuals faced with unemployment, underemployment, or job insecurity have strikingly similar experiences. The impact can be on the individual, on the family and society, and/or on work.

Impact on the individual: Stress related to unemployment, underemployment, and job insecurity can have very negative effects on the psychological and physical health of the affected individual. The following table shows the possible physical and psychological effects of stress due to being unemployed:

POSSIBLE PSYCHOLOGICAL EFFECTS

- worry
- strain
- stress
- hostility
- depression
- anxiety
- alcohol abuse
- violent behaviour
- anger
- fear
- paranoia
- loneliness
- pessimism
- despair
- social isolation
- mental illness
- suicide attempts
- less self-esteem
- fewer positive feelings
- less life satisfaction
- not feeling competent
- fewer feelings of mastery
- lowered aspiration level
- loss of social identity

POSSIBLE PHYSICAL EFFECTS

- headaches
- stomach aches
- trouble to sleep
- lack of energy
- ulcers
- high cholesterol levels
- high blood pressure
- contributing or aggravating factor to stroke
- contributing or aggravating factor to heart disease
- contributing or aggravating factor to kidney disease

Although not as well researched, underemployment also appears to take its toll on affected workers. People who are underemployed tend to be more depressed and lack self-esteem and positive feelings. Rates of suicide are higher among the underemployed. Physically, underemployment can lead to fatigue, backache and muscular pains as well as a host of other physical health problems.

Job insecurity can also make workers' health worse. The stress of possible job termination can lead to significant increases in stress hormones, blood pressure, and cholesterol levels. Job insecurity can make people psychologically distressed to the extent that they seek medical help for their distress. Job insecurity among managers is related to an increase in anxiety, depression, general distress, and hostility.

Unfortunately, individual workers are not the only ones who are negatively affected by economic stress.

Impact on Family and Society: in addition to affecting the workers themselves, unemployment, underemployment, and job insecurity have serious implications for the families of affected workers and society.

Unemployment has been linked with increases in physical abuse, between husband and wife, marital stress, divorce and wife battering. Not just the unemployed worker but their husband or wife may suffer from depression and psychiatric disorders. At the same time, the children of unemployed workers are also negatively affected. Unemployment can cause an increase in family conflict, child abuse, family violence, and aggression and hostility toward children. Unemployment can also result in less family cohesion and worsened physical and mental well-being of children. Children of unemployed individuals may be less well-behaved and do less well at school than children of employed individuals. These effects are particularly troubling because if children do not do well at school, they may themselves eventually have difficulties finding and keeping stable employment.

Valued Social Position

Similar effects are seen for the families of underemployed individuals. Underemployed husbands or wives may be less satisfied with their finances and marital relationship than fully employed couples. In addition, children of the underemployed face the challenges associated with the family having to move in order for the parents to take up a new job, and sometimes having fewer material possessions than their friends. The children may also have to interrupt their education and work to meet family needs. The underemployed also face social isolation as a result of their reduced financial situation. They may not be able to afford to socialize in the same way, or with the same people, as before.

When a partner in a marriage is worried about losing their job, the other partner may also start to worry about their job; when one partner is feeling economic stress, the other partner feels it as well. Unfortunately, such stress can lead to increased marital conflict and negative behaviors and attitudes within the marriage.

Children whose parents are experiencing job insecurity have more negative attitudes about work than other children. In addition, their grades in school can suffer. Similar to the effects of unemployment, the effects of job insecurity on children are particularly alarming. The parent's job insecurity can be related to the child doing less well at school which in turn can mean that the children will have worse employment opportunities in the future.

Impact on Work: there are numerous impacts on work when workers experience economic stress. These outcomes are summarized below:

- lower performance;
- less loyalty to the enterprise;
- less job satisfaction;
- less creativity;
- lower involvement at work;
- less trust in management;
- career frustration;
- more accidents and injuries.

Clearly, these outcomes are not only stressful for the affected workers, but each of these outcomes, either directly or indirectly, can also have a negative effect on an organization's bottom line due to staff leaving, increased accidents or lowered productivity.

Job insecurity and safety

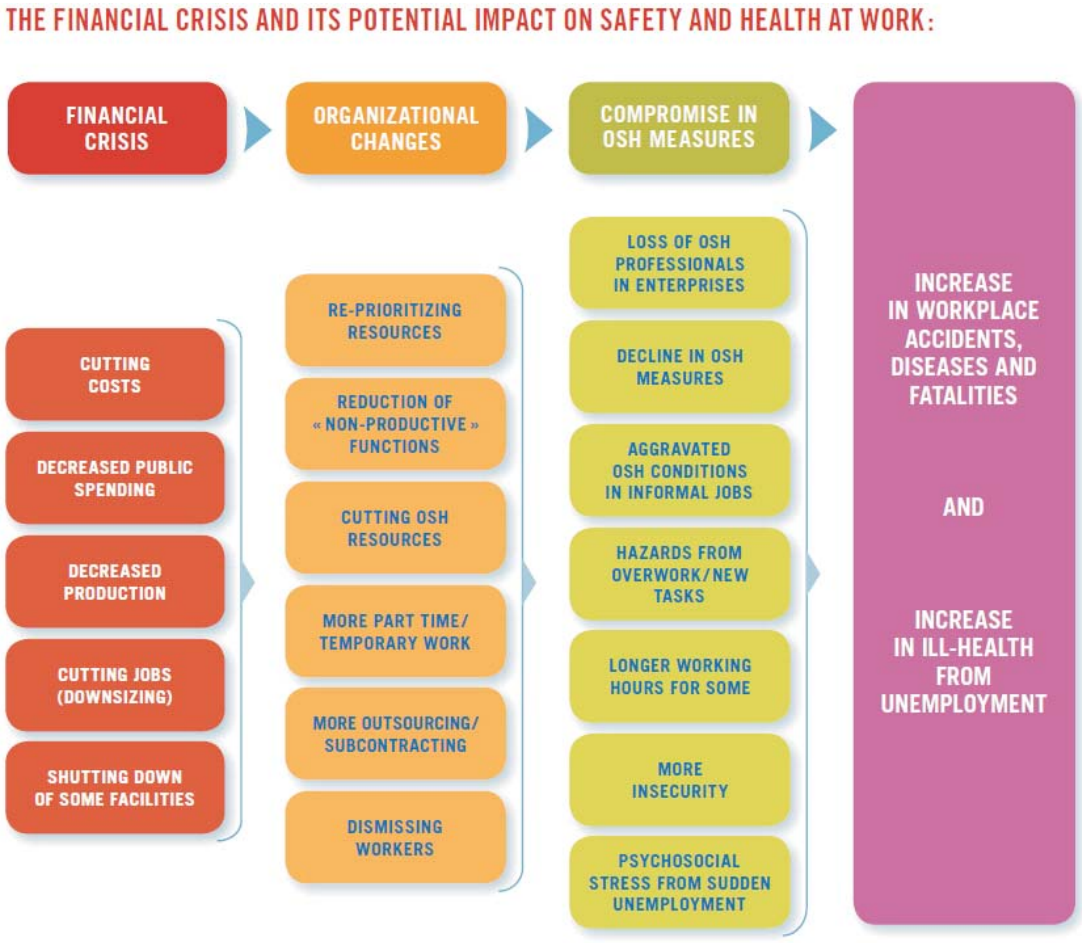
In a series of studies in the United States by Probst and Brubaker, it was found that economic stress can have a negative effect on worker safety. In the first study, the researchers found that workers who were worried about losing their job paid less attention to safety and experienced more accidents and injuries as a result. A follow-up study found that the threat of layoffs caused workers to focus more on production and less on safety and the quality of work. Encouragingly, a third study showed that organizations that gave a high priority to safety did not experience these outcomes, even when their workers reported economic stress. However, when little emphasis was placed on safety, insecure workers were more than twice as likely to have work-related accidents and injuries. It is clear that economic stress can have a negative effect on worker safety behaviours and outcomes, but there are steps organizations can take to prevent this from happening.

Source: Probst; Brubaker, 2001.

Does the current global financial crisis affect safety and health at work?

In the light of the economic crisis that started in 2007 and the current recession, it is expected that the number of workplace accidents and ill health will rise due to unemployment and enterprises' restructuring, as some companies and governments will be tempted to ignore occupational safety and health standards to reduce costs. The decrease in public spending will also compromise the capacities to deliver of labour inspectorates and other occupational safety and health services.

Organizational changes in this period may lead to decreased management of traditional hazards and risks, under the argument of a necessary reduction in costs. This may be the case largely in medium and small-scale enterprises which traditionally lack the resources and the know-how to manage occupational safety and health and may consider preventive measures a cost rather than an investment.



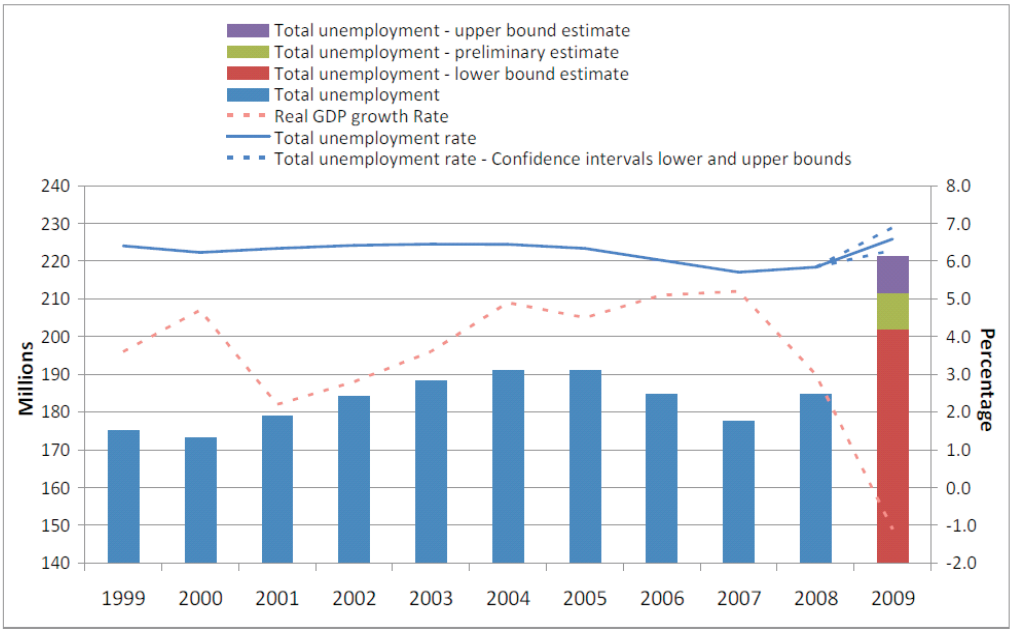
The organizational changes of restructuring, such as outsourcing, increased part-time work, and subcontracting, complicate the management of safety and health at work. This creates uncertainty and misunderstandings about responsibilities, especially where several different employers are working on one site, such as in the case of construction. Precarious working conditions will increase, adding to the risk of accidents and ill-health in micro-enterprises in the informal economy, where a formal management structure is lacking and survival is the priority.

The potential impact of the crisis on the health of workers goes beyond the victims of downsizing and the remaining workers themselves. It also affects their families, and the communities in which the restructuring occurs.

The prevention of work-related stress is an important aspect of the ILO's primary goal, on health promotion at the workplace A comprehensive approach to psychosocial risks related to the changes in the organization of work, working conditions and the working environment would allow for effective programmes, policies and strategies for new models of prevention of stress and other psychosocial hazards at work, particularly in times of crisis and economic recession (ILO, 2009).

3. The impact of economic stressors

Over the past decade, the world has seen increasing levels of global unemployment both in terms of total unemployment and the unemployment rate. The graphs below show that only in the past few years these trends have stabilized or slightly improved.



*2009 are preliminary estimates.
Source: ILO, Trends Econometric Models, October 2009

Figure 11.2: Global unemployment trends, 1999–2009.

Although the global unemployment rate was estimated at 6.6 per cent in 2008, there are significant differences across regions. The largest jumps in unemployment rates occurred in the more Developed Economies between 2008 and 2009. The European Union saw an increase of 2.3 per cent, Latin America and the Caribbean saw an increase of 1.2 per cent, while other less economically developed regions experienced more modest increases in their rates of unemployment (ILO, 2010a).

It is important to note that these labour force statistics do not take into account so-called "marginally attached" workers or "discouraged" workers. Marginal workers are unemployed individuals who want to work, but did not actively seek work during the four weeks preceding the labour force survey. Discouraged workers are defined as those who were not currently looking for work because they believed that there was no work available for them.

Lost in Statistics

Government estimates of unemployment may be a very poor measure of the true level of unemployment. The ILO estimates that there is much "hidden" unemployment that is not reflected in official statistics. In addition, most statistics do not take into account the underemployment of today's workers. For example:

- China's labour surplus is almost certainly twice a large as its official unemployment rate.
- Many countries in Eastern Europe and the Russian Federation classify large numbers of workers as on "unpaid or partially-paid leave", when in fact these individuals have very little chance of returning to paid employment.
- Official unemployment rates do not take into account involuntary, part-time working, layoffs, and short-time or temporary work.
- A person who loses a job is unlikely to return to that same job and often will suffer a permanent reduction in job opportunities, income and status level.
- 88 per cent of male workers and 92 per cent of female workers in India work with no contract.
- Only one-quarter of workers in the Ukraine expect to stay in their jobs for at least one year.

Source: Economic security for a better world, ILO, 2004.

Due to the increase in part-time and temporary work arrangements, a large proportion of today's workforce may be underemployed. Many of these workers would prefer permanent full-time positions. In addition, the de-industrialization of "industrialized" countries has resulted in a shrinking number of full-time manufacturing jobs and an increase in less secure part-time service jobs with fewer fringe benefits, for example less time off.

Many individuals who are entering the workforce following the completion of their formal education are accepting positions for which they are overqualified. The economic crisis resulted in an additional 7.8 million young workers facing unemployment bringing the total to an estimated 81 million or 13 per cent globally (ILO, 2010b).

The rising tide of job insecurity

Job insecurity is on the rise globally. Commercial rivalries around the globe, increasing deregulation of industry in developed countries, and the ever-increasing pace of technological change have led organizations worldwide to take extreme measures in order to remain competitive. Organizational restructuring in the form of corporate downsizing, mergers and acquisitions (that is one company absorbing another one and removing the overlap between them), plant closings, and workforce reorganizations affect millions of workers each year.

Job Insecurity around the Globe

- A survey conducted in 2003 by Barbeito and Lo Vuolo for the ILO found that only half of the employed individuals surveyed in Argentina were confident about being able to keep their jobs. In addition, 83 per cent felt it would be "somewhat or very difficult" to find a job with equivalent pay and skill requirements if they lost their current job.
- Dasgupta (2002) reports that the informal economy in India employs about 90 per cent of the country's workforce. The informal economy includes forms of work that are unregulated and unregistered, and tend to offer little security or social protection.
- According to the Society for Human Resource Management, 43 per cent of U.S. organizations conducted worker layoffs in 2000 and 2001 (prior to the events of September 11). On average 10-13 per cent of the workforce was fired.

The Role of Culture

As the above statistics imply, many of today's workers are concerned about their job security. However, job insecurity may be more troubling to workers in certain countries than others.

Researchers such as Probst, Lawler and Triandis have found that cultural values influence workers' negative reactions to perceived job insecurity. People with a collectivist cultural orientation were more likely to report lowered job satisfaction, more job stress, and more turnover intentions when faced with job insecurity than people with a more individualistic attitude. They also looked at the geographical split between workers in China and in the USA: Chinese workers, perhaps because of the traditional "iron rice bowl" policies (which provided robust job and social security) and greater collectivist values, had more negative reactions to job insecurity when compared to workers in the U.S., where job security expectations are lower.

In another study of job insecurity in China, Probst and Yi examined how the Chinese concept of *guanxi* (interpersonal connections) affects job insecurity. Workers with high levels of *guanxi* reacted worse to the perception of job insecurity – experiencing more negative work and job security satisfaction, more intention to leave their jobs, and more job stress – than workers with lower levels of *guanxi.*

Together, these results suggest that culture can play an important role in predicting worker reactions to economic stress. They also suggest that organizations need to take culture into account when planning and implementing organizational change.

4. Managing economic stress

Although it may seem like a challenging task, there are many things that organizations can do to manage the economic stress experienced by workers and their family members. Some of these interventions are easy and inexpensive to implement; others may take more time and investment of a company's resources. All of them should result in positive outcomes for the organization.

One South African gold mining company found that workers who had control over their job were healthier than workers who felt they had little control over their job. Low control workers suffered higher blood pressure and more health complaints when they were worried about their economic security, whereas high control workers did not. This suggests that individuals who perceive that they are able to protect themselves from negative events at work may be less vulnerable to the effects of economic stressors.

Source: Barling; Kelloway, 1996.

The proposals include:

- increasing workers' control;
- improving organizational communication;
- allowing workers' participation in decision making; and
- enhancing the value placed on safety and health within the organization.

Increasing workers' control

Granting workers increased control over their workplace may be a vital tool in reducing or preventing economic stress. When talking about workplace stress, workplace control can be defined as the ability to protect oneself from negative events at work. The more workers have control over the success of the organization, the more they will be able to see the connection between their good performance and the likelihood that the organization will be successful and keep its workforce.

Improving organizational communication

Often, the economic stress associated with organizational change is not due to the changes themselves, but rather the uncertainty surrounding those changes. If an organization is restructuring, merging with another organization, or downsizing, workers will be worried about how these events might affect their jobs. Unfortunately, it can sometimes be hard for workers to get accurate information about these changes and how they will affect them. When such information is hard to come by, workers will

often resort to following rumors and gossip about the upcoming events. Often such rumors can be worse than reality and can serve to make workers more worried than they need to be.

The Benefits of Communication

A study carried out in the United States, found that companies undergoing a merger that provided their workers with "realistic merger previews" reduced levels of uncertainty and anxiety. A realistic merger preview communicates detailed information regarding the timeline of the merger, how the merger will affect workers, and other relevant information to affected workers. Workers in organizations that did not provide this preview had more negative job attitudes, greater lack of trust toward the company, and lower levels of performance following the merger.

Source: Schweiger; DeNisi, 1991.

Opportunity for Skill Use

Based on these studies, it appears that organizational communication can play a key role in reducing the negative effects of economic stress. This management strategy can be very attractive because providing increased communication within an organization is not costly. For example, email is free and bulletin board postings are inexpensive. Therefore, organizations should strongly consider providing workers with brief daily or weekly updates regarding future organizational changes or events to help avoid the negative effects of economic stress on workers.

Allowing greater participative decision-making

As noted earlier, economic stress is particularly harmful to workers because they often feel they have little control over the events at work and in the economy that may cause their stress. Because a lack of control over one's life and employment can be very stressful, it can be useful to allow workers to participate in making important organizational decisions. This allows workers to regain a degree of control over their economic future and the economic future of the organization.

Participative decision making has been found to be very effective within organizations, precisely because it allows workers to have a substantial voice in job-related decisions. Organizations that provide their workers with participative decision-making opportunities offer their workers the chance to regain control over important aspects of their jobs that might otherwise be lost under conditions of job insecurity.

Enhancing the value of safety

Researchers have found that economic insecurity can result in more workers experiencing accidents and injuries, especially if their organization is seen as not caring

about safety, as in a study published by Probst in 2004. This suggests that particularly during times of organizational transition and economic stress for workers it is wise for organizations to consistently send a strong message regarding the importance of safety to their workers. In particular, organizations need to consider the messages being sent to workers who may be looking for clues on the best ways to stay in their job.

Although economic stress can result in more accidents and injuries, organizations can effectively counter this by increasing the emphasis that they place on safety within the organization. Often, organizations will say that they are concerned about safety, but workers feel that this is just "lip service". Therefore, it is very important that organizations not only state that they care about safety, but that they follow their statements up with action. This means that if a worker acts safely, that worker should be rewarded in some way, whereas if a worker acts in an unsafe way, they may lose out in some way. The following box provides some examples of easy and cost-effective ways to promote safety within a company.

Ways to Promote Safety

- Focus on safe behaviour, not safety outcomes, such as the number of accidents. Focusing on safety outcomes often pressures workers not to report accidents when they occur in order to appear safe. Therefore, reward workers for safe behaviour, not just for staying accident-free.
- Link safety behaviours to promotions and salary increases. If salary increases and promotions are only tied to production, workers will only be concerned with production. Therefore, these important job benefits should also be linked to safe behaviour.
- Have special events that recognize and reward workers who make safety their first priority. Workers are often recognized if they are highly productive, but safety is not always promoted in the same way.
- Perform random safety checks. Walk around the work site and if workers are observed acting safely, provide little rewards like coupons to the company cafeteria or a gift certificate to a local store. Some workers will actively improve their safety behaviour in response.

5. Good practices: measures to avoid layoffs

During the economic downturn in 2009, there were examples of companies which had pursued alternative strategies to layoffs in the face of a global economic crisis in different parts of the world. While some of the workers affected may have suffered a short-term loss of income, on the whole their morale and commitment to the company was maintained by the long-term prospect of staying in employment. The enterprises benefited from not losing skilled labour, allowing a faster recovery as the economy improved.

Many alternatives to layoffs involve re-organizing staff, development of labour management policies by companies and assistance from the State.

The following are some examples of on-going measures to deal with the crisis and the recession:

Lending workers to other workplaces

In times of crisis some enterprises have explored lending workers to another factory that had more orders than they could fulfil for a short period as an alternative to dismissal. The manufacturer continues to pay its staff's wages, but invoices the amount to the other factory.

Cross-training

Training staff to carry out a variety of tasks, so they could be employed where they are most needed is another alternative. For example, in a hotel administrative staff like secretaries can be trained to take on serving work at banquets when they are not needed in the office.

Unpaid leave

Some big firms offered their workers one month of unpaid leave, to be taken at some time during the first six months of the year. In one particular case, about 90 per cent of staff agreed to such a deal, this had the effect of cutting payroll costs by 17 per cent.

In another case, workers were asked to take five days of unpaid leave during the first four months of the year; however, their pay would not be reduced until the end of that period. The chief executive promised that if the company's finances improved these measures would be reversed.

In some countries Governments and national companies have agreed to reduce workers' hours and pay, with Government covering the cost of the shortfall from the unemployment benefit schemes. Participating companies appreciated not having to fire staff with key skills.

Cut wages

Some companies simply reduce wages to cut costs. To make this more equitable, two international companies reduced pay by only 5 per cent for salaried workers but by up to 20 per cent for senior executives.

Reduce non-staff related costs

Further cost-saving measures:

- energy bills: this has the additional advantage of being environmentally friendly;
- stationary supplies: a telecom firm decided to buy only the most essential office equipment;
- catering: one company stopped providing free lunches on Fridays; another replaced the yearly office party in a top hotel with a family-friendly, self-catered barbeque;
- training: an advertising agency still provides training but at lower cost, using fewer outside consultants and utilizing in-house skills instead;
- *quid pro quo* arrangements: a marketing company was able to offer marketing services to the owners of the office they leased in return for reduced rent.

The trade unions' role

Many trade unions provide advice and guidance to members on how to encourage employers to find alternatives to layoffs during the crisis. For example, by using their web site or an electronic newsletter to suggest options like voluntary layoffs, job sharing and shorter working hours; information on how to negotiate on alternatives to layoffs through collective bargaining; among the possible measures for avoiding cuts are changing working conditions, redesigning work and training in new skills. For all these measures social dialogue is an essential part of the process.

Some of the examples listed below include policies that have been implemented.

Stimulus packages and Job creation

The National Rural Employment Guarantee scheme in India enshrines a right to employment, and provides a wage floor for the rural poor. The NREG Act was enacted in 2005, building on a previous initiative in the state of Maharashtra (the Maharashtra Rural Employment Guarantee Programme). The scheme grants the right to employment up to 100 days per year in public works programmes per rural household. The government acts as the employer of last resort, providing work to those who are unable to gain employment elsewhere. The NREG scheme underscores the importance of having safety nets in place supported by existing institutions and policies, in order to be able to respond to an economic shock. It is expected that such a scheme will help India in mitigating the impact of this global crisis on the rural poor (Kannan, 2009).

A number of countries have announced public works programmes. For example, South Korea announced in 2009 that it will offer 250,000 temporary jobs to vulnerable and

unemployed workers over a six month period. These workers were involved in repairing and maintaining public facilities and undertaking other manual labour; they earned 830,000 WON a month for a 40 hour week over a period of six months (around US$ 664 at the current exchange rate).[1]

Shorter working week and training initiatives

China announced in November 2008, a four trillion Yuan (586 billion US$) economic stimulus package for two years, which corresponded to 14 per cent of the estimated gross domestic product for that year. As part of this package, a nation-wide vocational training scheme was conceived for laid-off and migrant workers, in order to ease pressure on the Chinese job market (Lee, 2009).

Countries such as Mauritius have looked for ways to keep people in employment. In May of 2009, the Government of Mauritius announced a "Work cum Training" scheme organized by its National Employment Foundation. The scheme enabled companies in the manufacturing and tourism sectors facing a reduction in their turnover to train their workers instead of laying them off. The government allowed for a 300 million Mauritian Rupees budget for the scheme with the aim to save approximately 6,000 workers from unemployment while at the same time improving their skills. Training was designed to be provided for up to two days a week and will run for a maximum period of 18 months, up to December 2010 (Cazes et al., 2009).

Work share

Prior to the current global crisis and recession, work sharing schemes existed in a number of industrialized countries such as Austria, Belgium, France, Germany, Japan, the Republic of Korea, the Netherlands, Switzerland, and the United States of America (in certain states). With the development of the present economic downturn, a number of European countries, among them France and Germany have extended their work sharing schemes, known as "chômage partiel" or "Kurzarbeit" respectively, in terms of their duration and the level of subsidies for the employee or the employer. The maximum duration of the German scheme was incrementally increased as the scale of the crisis expanded, and as of May 2009 stood at 24 months. The German work sharing scheme "Kurzarbeit" has played an important role in preventing unemployment in Europe's largest economy. Official figures show that as of March 2009, 1.26 million workers were covered by this scheme, a very significant increase from the 155,000 workers concerned only a year earlier (Cazes et al., 2009).

Trade union action and advice

In general, most employers are reluctant to reduce wages because of the adverse effect on staff morale. Surprisingly, with falling prices, wages in many countries have increased since the start of the crisis in 2008. However, in badly affected sectors such as the airline, automobile, and mining industries, companies have had to resort to such

[1] *Government to create 250,000 temporary jobs to stimulate economy*, Korea Development Bank, May 11 2009. Available at: http://www.kdb.co.kr/weblogic/Board?BID=25&NID=35932&ACTION=VIEW

measures in order to reduce costs; however, any form of salary reduction should include consultation with the workforce. For example, the Toyota Motor Corporation (in the United Kingdom) agreed with representatives of employees to cut base pay and production by 10 per cent at its British plants for a period of one year beginning on 1 April 2009. This helped avoid layoffs that have taken place in most car manufacturers.[2]

Employers and unions in the Swedish manufacturing sector reached an agreement on the temporary reduction of work hours and training in March of 2009. This agreement allowed employers to reduce workers labour hours by 20 per cent (unsubsidized), which could then be replaced by participation in training programmes. Volvo has already taken advantage of this agreement, helping the company keep 1000 workers who otherwise would have been dismissed.[3]

2 *Toyota cuts working hours and pay,* British Broadcasting Corporation (BBC), 2009. Available at: http://news.bbc.co.uk/2/hi/business/7936397.stm

3 *Agreement on temporary layoffs reached in manufacturing*. K. Loven; Eurofund, 2009. Available at: http://www.eurofound.europa.eu/eiro/2009/03/articles/se0903019i.htm

6. Interrelationships

Economic stress and nutrition

When workers are concerned about possibly losing their job, they often begin to cut their spending in an attempt to save money. Large purchases may be put on hold and people try to economize on everyday necessities too. Workers may buy less expensive food, or buy less food altogether. In some cases this can lead to malnutrition in those workers who are not eating enough to provide what their bodies need to function and stay healthy. Alternatively, in countries where cheap food is lower quality food containing high levels of fat, sugar and little fiber, it can contribute to increasing levels of obesity.

Addictions and economic stress

When people are stressed, they often turn to smoking, alcohol, and illicit drug use as a means of coping with life's difficulties, such as unemployment, underemployment, or job insecurity. Although these drugs may be used initially to help one cope, they can quickly become a major problem of their own. Smoking, alcohol, and drug use cannot solve the underlying stressor, and in fact, may very well contribute to the problem. For example, many employers have strict policies against alcohol and drug use in the workplace. If caught, workers may find themselves out of a job.

Job stress and economic stress

Although the causes of stress at work and economic stress may differ, they have similar impacts on workers. They also have similar remedies. Whatever the source of stress, it is a result of an imbalance between demands and control. Increasing worker control can lead to lower levels of job stress. Similarly, as discussed in this chapter, increasing worker control also serves to reduce the effects of economic stress.

Economic stress and violence

The most common trigger of extreme workplace violence, such as shootings, is a layoff or firing. Therefore, the link between economic stress and workplace violence should not be underestimated. Many organizations have found out the hard way that the trauma of losing one's job can result in workers becoming violent. For example, laid-off workers at Moulinex SA, a bankrupted household appliance company, threatened to blow up their factory if their demands for increased severance pay were not met.[4] Workplace violence is more likely to occur if layoffs are perceived to be unfair or unjust. Violence due to economic constraints can also bring violence into the home and the family particularly in the male spouse loses his job and remains for along period unemployed.

4 *Workers torch bankrupt company*, BBC, 2001. Available at: http://news.bbc.co.uk/2/hi/business/1652590.stm

7. Policy integration

When addressing economic stress in organizations, there are several issues that could be taken into consideration when developing a comprehensive workplace health and safety policy. Below are some of the most important elements:

Risk assessment and risk management: continually assess the organization's staffing needs. Plan appropriately for future reductions in staffing. Announce any decisions well in advance and develop mechanisms for keeping workers on while cutting costs. For example, several companies provide early retirement incentives or provide financial incentives for workers who are willing to volunteer for part-time duty on a temporary basis.

Confidentiality: being laid-off or terminated from one's job is one of the most traumatic events a person can experience at work. It is therefore imperative that such decisions and processes be conducted with the utmost confidentiality to ensure the worker's privacy and respect. Sometimes, layoffs are announced publicly or workers find out they are laid-off when they show up at work and find their names are missing from the weekly schedule. Such breaches of confidentiality and lack of respect are not only devastating for the worker, but also damage relations between the company and its remaining workforce, who have witnessed this lack of respect and confidentiality.

Team work, worker involvement, and consultation: the involvement of managers, trade union representatives and workers is important for any decisions that might lead to staff reductions. This kind of dialogue can prevent future conflict, reduce reliance on often inaccurate rumours, and can even open the possibility to innovative solutions that might make it unnecessary to fire workers.

Information, education and training: increasing organizational communication and the accurate flow of information is key to preventing the negative consequences of economic stress. Workers often unnecessarily experience more stress than needed due to inaccurate information or rumours. Education and training are also key components for dealing with economic stress. By keeping the workforce updated with the most current skills needed to adapt to a rapidly changing environment, organizations can avoid having to layoff workers whose skills have become out of date.

Social responsibility: organizations often turn to layoffs as the first choice when faced with the need to cut costs. However, research has shown that downsizing does not necessarily improve profitability. Therefore, because it makes good financial sense and because it is the socially responsible path, organizations should avoid layoffs unless they are absolutely necessary. If they do become necessary, they should be conducted in a humane and respectful way.

Assistance & treatment: in the unfortunate event that worker layoffs do need to take place, companies should provide workers with appropriate assistance in finding a new job and access to counselling and other employee assistance programmes. Not only is this socially responsible, it also results in a more committed and productive remaining workforce, who see that their organization cares about its workers, even those it is going to lose.

Bibliography

Barbeito, A. C.; Lo Vuolo, R. M. 2003. *Income (In)Security in Argentina* (Geneva, ILO).

Bardhan, A.; Kroll, C. 2003. *The New Wave of Outsourcing* (Berkeley, Fisher Center Research Reports, University of California).

Barling, J.; Kelloway, E. K. 1996. "Job insecurity and health: The moderating role of workplace control" in *Stress Medicine*, Vol. 12, pp. 253–259.

Bureau of Labor Statistics – U.S. Department of Labor. 2010. *Labor force statistics from the Current Population Survey*.
Available at: http://www.bls.gov/news.release/pdf/empsit.pdf

Cascio, W. 2002. *Responsible restructuring: Creative and profitable alternatives to layoffs* (San Francisco, Berrett-Kohler Publishers).

Cazes, S.; Verick, S.; Heuer, C. 2009. Employment Working Paper No. 35, *Labour Market policies in times of crisis* (Geneva, International Labour Organization).

Dasgupta, S. 2002. *Organizing for socio-economic security in India* (Geneva, ILO).

European Foundation for the Improvement of Living and Working Conditions. 2007. *Temporary agency work in the European Union* (Dublin, Eurofound).

International Labour Office. 2004a. *Economic security for a better world* (Geneva).

—. 2004b. "Safety and insecurity: Exploring the moderating effect of organizational safety climate" in *Journal of Occupational Health Psychology*, Vol. 9, No.1, pp. 3–10.

—. 2007. *Global Employment Trends: BRIEF* (Geneva).
Available at: http://www.ilo.org/public/english/employment/strat/download/getb07en.pdf

—. 2009. *Brochure for the World Day for Safety and Health at Work*, 28 April 2009, "Health and Life at work: A basic human right" (Geneva).
Available at:
http://www.ilo.org/legacy/english/protection/safework/worldday/products09/booklet_09-en.pdf

—. 2010a. *Global Employment Trends January 2010* (Geneva).
Available at: http://www.ilo.org/public/libdoc/ilo/P/09332/09332(2010-January).pdf

—. 2010b. *Global Employment Trends for Youth* (Geneva).

Kannan, K.P. 2009. *National Policy Responses to the Financial and Economic Crisis: The Case of India*. (Bangkok, ILO Regional Office for Asia and the Pacific).

Lee, C. H. 2009 *National Policy Responses to the Financial and Economic Crisis*: *The Case of China* (Bangkok, ILO Regional Office for Asia and the Pacific).

Probst, T.M.; Brubaker, T.L. 2001. "The effects of job insecurity on employee safety outcomes: Cross-sectional and longitudinal explorations" in *Journal of Occupational Health Psychology*, Vol. 6, No. 2, pp. 139–159.

—. 2002. "Layoffs and tradeoffs: Production, quality, and safety demands under the threat of job loss" in *Journal of Occupational Health Psychology*, Vol. 7, No. 3, pp. 211–220.

—. 2005. "Countering the negative effects of job insecurity through participative decision making: Lessons from the demand-control model" in *Journal of Occupational Health Psychology*, Vol. 10, No. 4, pp. 320–329.

—; Yi, X. 2005. *Guanxi in Chinese organizations: A help or hindrance in insecure times?* Paper presented at the 2005 annual conference of the Society of Industrial and Organizational Psychology (Los Angeles).

—; Lawler, J. 2006. "Cultural values as moderators of the outcomes of job insecurity: The role of individualism and collectivism" in *Applied Psychology: An International Review*, Vol. 55, No. 2, pp. 234–254.

Sayeed, A.; Javed, S. 2001. *People's Security Survey*, (Karachi, Pakistan Institute of Labour Research and Education; commissioned by the ILO's IFPSES department).

Schweiger, D. M.; DeNisi, A. S. 1991. "Communication with employees following a merger: A longitudinal field experiment" in *Academy of Management Journal*, Vol. 34, 110–135.

Social Issues Research Center. 2004. *Poverty and obesity*.
Available at:
http://www.sirc.org/articles/poverty_and_obesity.shtml

Society for Human Resource Management. 2001. *Layoffs and job security survey* (Alexandria, Virginia, Society for Human Resource Management).

Triandis, H. C. 1995. *Individualism and collectivism* (Boulder, Colorado, Westview Press).

Van den Broek, A. et al. 2004. *Trends in Time: The Use and Organization of Time in the Netherlands* (The Hague, Social and Cultural Planning Office).

Warr, P. B. 1987. *Work, unemployment, and mental health* (Oxford, UK, Clarendon Press).

—. 1994. "A conceptual framework for the study of work and mental health" in *Work and Stress*, Vol. 8, No. 2, pp. 84–97.

Websites

- ILO Employment Trends department (EMP/TRENDS)
  http://www.ilo.org/public/english/employment/strat/stratprod.htm

- ILO Social Security department (SEC/SOC)
  http://www.ilo.org/public/english/protection/secsoc/

- ILO Skills and Employability department (EMP/SKILLS)
  http://www.ilo.org/public/english/employment/skills/index.htm

- ILO's Declaration on Multinational Enterprises and Social Policy, 2007
  http://www.ilo.org/global/About_the_ILO/Media_and_public_information/I-News/lang—en/WCMS_082741/index.htm

- ILO Forum on Decent Work for a Fair Globalization, 2007.
  http://www.ilo.org/global/What_we_do/Events/Symposiaseminarsandworkshops/lang—en/WCMS_083618/index.htm

- Business week "Good practice" article
  http://www.businessweek.com/magazine/content/09_10/b4122055789445.htm

- Trade union good practices
  http://www.ueunion.org/stwd_layoffalternatives.html
  http://www.afscme.org/publications/9666.cfm

From concept to action

Introduction

As all the background information for this final part has been provided in Module 1: Introduction and in Module 2: *Managing workplace health promotion* of this guide, there is no additional technical information for this final Module 12 *From concept to action.* The two modules mentioned above describe how in the SOLVE context, an integrated approach to the protection of the overall health and well-being of workers incorporates health promotion into an OSH workplace policy. They also highlight that to implement the strategy reflected in the policy, it is necessary to design a preventive programme that should be the basis for the development of a plan of action and Module 2 provides some elements for the design of both tools.

The purpose of Module 12 in the participant's workbook is to integrate all the knowledge built up during the course through the exercises in each module. The participants are expected to design a preventive programme and a plan on action for their virtual enterprise. They should incorporate the elements identified in each of the previous modules taking into account their interrelations. For this purpose there are 2 practical tools in the Action module of the Participant's Workbook: 1) a Workplace Health Promotion Matrix and 2) an Action Plan Matrix. You will also find an example on how to fill both matrixes in the lesson plan for this module to guide your in advising the group.

From concept to action

In Module 2 **Managing workplace health promotion** of the participant's workbook, they were asked to draft a health promotion policy statement to be integrated into the draft occupational safety and health policy as the first step.

As a second step, in the simulation exercises of each module, the participants were asked to act as management teams to take operational decisions concerning health promotion in a virtual enterprise.

The decisions taken during the simulation exercises complemented by the use of the checklists in each module, will allow the participants to draft a Workplace Health Promotion Programme.

The third and final step of the process is the drafting of an Action Plan. It will allow them to define the expected results for each of the measures to implement, the resources to allocate, who will be responsible for the implementation, and by when they expect to obtain the results.

Although the exercises in the training package concern a virtual enterprise, the training allows them to consolidate the knowledge gained to design a workplace health promotion programme for their enterprises once they have finished the training.