



PROTECTING WORKERS'
HEALTH SERIES No. 11

Building Healthy and Equitable Workplaces for Women and Men

A Resource for Employers and
Worker Representatives



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INSIDE COVER IMAGE

Pregnant woman working in a factory,
Hong Kong © ILO

IMAGE, p. 6

Teamwork, Egypt © ILO

IMAGE, p. 12

Young woman on her way to the well, Rwanda
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Women in production line, Hong Kong © ILO

Men working in a factory, Russia © ILO

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Women working, Mali © ILO

IMAGE, p. 30

Business owner woman, India © ILO

Protecting Workers' Health Series No.11

Building Healthy and Equitable Workplaces for Women and Men

A Resource for Employers and
Worker Representatives



Cover Page Layout: Tuula Solasaari-Pekki, Finnish Institute of Occupational Health

Design and Layout: Philippos Yiannikouris

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Preface

This document is the eleventh in a series of occupational health documents entitled *Protecting Workers' Health* published by the World Health Organization (WHO) within the Programme of Occupational Health. It is the result of the implementation of the Global Strategy on Occupational Health for All as agreed upon at the Fourth Network Meeting of the WHO Collaborating Centres in Occupational Health (Finland, 1999). More recently, it has gained momentum following the endorsement of the Global Plan of Action in Workers' health 2008-2017 by the World Health Assembly (2007).

As part of the Global Plan of Action, the WHO developed a global framework and model for employers, workers, policymakers and practitioners to assist them in the planning, development, implementation and evaluation of healthy workplace initiatives. A healthy workplace is defined as one in which workers and managers collaborate in a continual improvement process to protect and promote the health, safety and well-being of all workers (1). According to the framework, healthy workplaces should be open, accessible and accepting environments for people with differing backgrounds, demographics, skills and abilities.

Around the world women and men experience different realities at work, at home and in their communities, with women often at a disadvantage relative to men. This document provides employers and worker representatives with tools to build healthy and equitable workplaces for women and men while bringing needed attention to issues predominantly affecting women. The document includes 1) ways to address the needs of women and men in the areas of physical and psychosocial health, personal health resources and enterprise-community involvement and; 2) a checklist that helps think about sex (biological) and gender (social) differences between women and men at all stages of workplace policies, programmes and practices.

“Treating everyone the same”, although well-intentioned, can result in missed opportunities to consider the specific needs and experiences of different groups (2). For instance, providing all workers with equipment of the same size ignores differences in average body dimensions between women and men. This can lead to the equipment being difficult to use or even dangerous for one of the sexes.

The tools presented in this document are broad enough to be applicable to a range of industries in both developed and developing countries. Whenever possible, we seek to minimize the tools’ requirements for structures (organizational, legislative, etc.) and resources so that they may be relevant to developing countries, the informal sector – that which is not monitored by a government – small businesses and work done in the employer’s home. One important requirement of the tools’ successful implementation however is management commitment to the improvement of working conditions and the promotion of gender equity.

For men and women workers, their families and communities, healthy workplace initiatives that take into account sex and gender differences can lead to better health and well-being. They can also lead to empowerment through the equitable and meaningful participation of workers in programmes that encourage communication and action and foster support (3,4,5). For employers, such initiatives can result in an improved bottom line in the form of decreased turnover and absenteeism, increased productivity and morale, and lower workers’ compensation costs (6,4,7).

The text was prepared by Stéphanie Premji of the Interdisciplinary Centre for the Study of Biology, Health, Society and the Environment (CINBIOSE) in Montréal, Canada. It was subject to an extensive peer review process by international experts in multiple stages. The options for intervention are based on current research on gender and occupational health as outlined in a recent review of the evidence (8). They are also inspired by the action plan adopted by Canadian researchers and union representatives in the symposium entitled “Improving the Health of Women in the Work Force: A Meeting of Representatives of Women Workers and Researchers” that took place in Montréal in 1998. Although formulated more than a decade ago, the action plan has since been translated in multiple languages and used in countries across Europe and Latin America.

Project Leader: Evelyn Kortum, Technical Officer, Occupational Health, World Health Organization, Geneva, Switzerland

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- Joan Burton, President, Joan Burton & Associates, Workplace Wellness, Canada
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- Dingani Moyo, Medical Doctor, Midlands Occupational & Travel Health Centre , Zimbabwe, Africa.
- Hisashi Ogawa, Regional Adviser, Occupational Health, World Health Organization, Regional Office for the Western Pacific Region, Manila, Philippines.
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- Joanna Vogel, Technical Officer, Women Health & Development, World Health Organization, Regional Office for the Eastern-Mediterranean Region, Cairo, Egypt.
- Isabel Yordi Aguirre, Technical Officer on Gender and Health, World Health Organization, Regional Office for Europe, Copenhagen, Denmark.

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01

Definitions

Sex, gender and equity are used repeatedly throughout this document. What do these terms mean?

Sex (9) – the biological and physiological characteristics that define women and men (these may be determined by both genes and the environment).

For example...

- Men on average are taller, heavier and stronger than women on average (10).
- Men and women have different reproductive systems: men can impregnate while women can give birth.
- Women and men have different hormonal systems.

Gender (9) – the socially constructed norms, roles, behaviours, activities and attributes that a given society considers appropriate for women and men. Gender roles can vary from culture to culture and change over time.

For example...

- In most societies, women are expected to be responsible for home cooking, cleaning and caring tasks while men are expected to be the bread winners.

Equity (11) – refers to something that is just, impartial and fair. Gender equity refers to equal access, opportunity, control and benefits for women and men.

02

Labour trends through a gender lens

Women make up 40% of the **paid workforce** worldwide (12). In developed countries, such as the United States of America (USA), women now account for nearly half of all workers (13) but, in many developing countries that proportion is much smaller. In Pakistan, for instance, women represent 21% of paid workers (14). This gender gap is gradually shrinking as the share of women in paid work increases and the share of men in paid work decreases (12).

Women continue to be under-represented in high-level and decision-making positions and often face barriers to their advancement (the “glass ceiling”). For example, a 2005 survey of 30,000 workers in the European Union found that out of full time employees, 23% of men had some supervisory responsibilities compared to 15% of women. Female managers and supervisors were more often found at the lower ranks of organizations (15). Women on average also continue to earn less than men on average, even for the same job (16). On the other hand, there is increasing gender de-segregation as many jobs are no longer reserved for one sex (12).

In spite of this, women and men are still largely segregated in different types of paid work. Women are more likely to be employed in “people” work including caring and service work while men dominate jobs associated with heavy machinery. There are cultural differences: in some countries it is customary for women to lift heavy loads and for men to do administrative work while in others the opposite is true. Even when women and men hold the same job title they may still perform different tasks. For example gender expectations as to which tools are more suitable for women and men means that in some garment factories women cutters use scissors while men cutters use cutting machines (17).

Women and men also play different roles in relation to children, families and communities. Even though women are increasingly joining the paid workforce, in

most societies they continue to be mainly responsible for domestic, **unpaid work** such as cooking, cleaning and caring for children. They are also largely responsible for unpaid work as health care providers for their elderly, disabled and ill relatives and they comprise a large proportion of unpaid family workers in businesses owned by same-household relatives (12). In many parts of the world, women perform all domestic and care tasks while many also assume men's traditional role in paid employment.

Worldwide, 246 million girls and boys are involved in **child labour**, some 179 million of whom are exposed to conditions that endanger their physical, mental or moral well-being (18). Girls tend to perform paid work in agriculture and personal services while boys tend to work in manufacturing, trade, hospitality and transport. Girls in developing countries also tend to perform more household chores than boys. In many countries, girl children are discriminated against from early on in life, for example, by being denied an education. This leaves them more vulnerable to unemployment, low wages and hazardous working conditions, often unable to assert themselves and advocate for changes.

Women and men's work has been affected by **globalization**, the process by which societies and economies are increasingly becoming connected and interdependent. This process has resulted in a shift of production of industrial products from developed to developing countries. In Export Processing Zones (EPZs), areas where trade barriers are eliminated and bureaucratic requirements are few, women make up the majority of workers. In the EPZ factories, workers often face low wages and poor working conditions, including abusive labour relations.

At the same time, conditions such as labour market shortages in developing countries have contributed to an increase in the **migration** of workers from countries with limited economic opportunities to developed countries. In equal proportions, workers are migrating within developing or developed countries. Migration can also be forced, such as in the trafficking of women and girls. Men migrants often work as agricultural or construction workers (19) while women often work as domestic workers or caregivers. Migrant workers tend to be employed in high-risk and/or low-pay



sectors; receive little work-related training and information; face language and cultural barriers; lack protection under the destination country's labour laws; and experience difficulties in adequately accessing and using health services. Women migrants represent nearly half of the total migrants in the world and their proportion is growing, especially in Asia (20).

The globalization of production and the need for cheap and flexible labour has led to a rise in informal and flexible employment. **Informal employment** is that which is not monitored by a government. It includes all unpaid work, part of paid work and most of child labour. It encompasses the majority of activities in the agricultural sector, a sector that employs 40% of the world's workers (21), a little less than half of whom are women (22). In most countries women are more likely than men work in informal employment. In some developing countries in Asia and Africa informal jobs represent the near totality of female non-agricultural labour. In the informal sector outside of agriculture, men tend to work in the construction and transport industries while women tend to participate in home-based work or street vending (23,24).

Flexible employment arrangements are alternatives to working from 9:00-17:00, Monday through Friday for one employer. In most cases flexible arrangements benefit employers, one of a few exceptions being when individuals choose to work part-time to better balance work and other responsibilities. Women worldwide are over-represented in part-time work (usually not by choice). In Europe, 78% of the 34.3 million part-time workers are women (25). Men are over-represented among own-account and shift work (12). Informal and flexible work arrangements are generally associated with a lack of job security and benefits; inadequate training; unhealthy working conditions; insufficient protection from governments and unions; barriers in accessing and using health services; and greater difficulties balancing paid and unpaid work.

The recent **global economic crisis** has resulted in a slowing down of migration and has had a devastating impact on workers causing high levels of unemployment, underemployment and job insecurity. Job losses initially affected traditional male domains in developed countries in the financial, manufacturing and construction sectors and later women's domains around the world. For instance in Cambodia, in the garment industry where 90% of workers are women, 30 000 jobs have been lost since the crisis began in 2008 (26). There are additional concerns that the economic slowdown will lead to an increase in work intensification (i.e. businesses employing fewer workers to do the same amount of work); compromises in health and safety; and an expansion of the informal sector.

03

Sex, gender, work and health

Work generally has a positive effect on the health of women and men and on the well-being of households, communities and economies. Work outside the home provides women with social support and helps build their self-esteem (27,28,29). However, work also involves hazards to workers' physical and psychological health. Around the world each year there are 270 million occupational accidents, 160 million occupational diseases and more than 2 million work-related fatalities (30). These numbers underestimate the true extent of the problem since many occupational injuries and illnesses are under-reported, especially in developing countries (31).

Few countries collect data on occupational injuries and illnesses by sex, so it is impossible to estimate how work-related health problems are distributed between women and men worldwide. What we do know is that women and men have different experiences when it comes to health and safety: they face different risks and health problems, interact differently with their working conditions, have different domestic, unpaid responsibilities and have distinct experiences with regards to preventive and responsive measures (e.g. training, compensation, etc.).

3.1. Women and men face different risks and health problems

Job and task segregation by gender means that women and men are generally exposed to different work-related hazards. For instance, in their jobs in construction, mining and transport, men are exposed to risks such as falls, explosions, electrocutions, chemicals, noise (27), vibration, heat and solar radiation (32). In the European Union, 90% of individuals exposed to solar radiation at least 75% of their working time are men (27). On the other hand, in their jobs in low-wage manufacturing, education, retail and health care, women are exposed to organizational risks such as monotony, high demands and limited authority (which

have been linked to fatigue, depression, and unhealthy behaviours) (33,34), biological and chemical hazards such as infections and solvents, and musculoskeletal and cardiovascular demands such as repetitive movements and awkward, static and standing postures (35). As the majority of sex workers, women are disproportionately exposed to sexually transmitted diseases like HIV and HPV (36,37,38).

As a result of the jobs they do, men are more likely than women to be victims of fatal and non-fatal work-related accidents (39,40) while women, more often than men, are victims of occupational diseases (41).

Musculoskeletal disorders (MSDs) represent the largest category of occupational diseases. Within this category, repetitive strain injuries are particularly common among women (42,43).

In all sectors, women and men are exposed to physical, psychological and sexual violence (including harassment, bullying, threats, etc.) that may or may not be motivated by discriminatory attitudes relating to gender (44). Women particularly are at risk of workplace violence because of they are over-represented in jobs where they must interact with pupils, clients and patients (44,45). In many parts of the world women also experience violence while traveling to and from the workplace. This is true of Ciudad Juarez, Mexico, where hundreds of women maquiladora (export assembly plant) workers have been murdered in recent years. Women and men experience different types of violence at work: Across sectors, women are more likely to be victims of psychological and sexual violence and men of physical assault (46,47,48).

Violence, regardless of its form, has repercussions for both physical and psychological health. For example, among men, interpersonal conflicts at work have been linked to fatigue and poor health (49). Among women, sexual harassment has been associated with a vast array of health problems (e.g. elevated systolic blood pressure) (50) and productivity outcomes (51). Discrimination on the basis of gender or other factors also constitutes a health hazard; for example, it has been associated with lower job satisfaction (52) and higher blood pressure (50).

Compared to the risks faced by men at work – consider the ordeal of the thirty-three Chilean miners who were trapped underground for 69 days in the fall of 2010 – some of the risk faced by women can appear deceptively unremarkable. For example, the work of a sewing machine operator may be characterized by an outside observer as “light”. Yet, over an 8-hour day, some sewing machine operators exert thousands of kilograms of cumulative pressure on their lower and upper limbs (53). Similarly, exposure to chemical risks found in women’s jobs is often chronic and involves mixed and low-level exposures. Working as a cleaner or hairdresser may not seem dangerous but substances that are found in some common products can cause a range of health problems, some sex-specific, like cancers of the female reproductive organs and adverse pregnancy outcomes (35,54).

Box 1: Women and Men in Agriculture

Agricultural workers face injury from machinery, poisoning from chemicals (often stored in the house or brought in on clothing), infections from biological hazards, inadequate rest and abuse (e.g. discrimination from crew leaders, substandard housing, violence, etc.). Pesticide exposure in this sector is a problem that affects all workers, but women face specific risks. For instance, they are more likely to be responsible for washing pesticide soaked clothing, and less likely to read warning labels because of low literacy. Pesticide exposure negatively impacts the health of women and men, including their reproductive health. It can also impact their children. In Delhi, it is estimated that the average infant receives through breast milk 12 times the acceptable level of DDT, an extremely dangerous pesticide.

3.2. Women and men’s bodies interact differently with working conditions

Even when women and men perform exactly the same tasks they may still be exposed to different risks. Differences in shape and average body dimensions between the sexes mean that work equipment and tools that are designed for men’s bodies are often unsuitable for women (55,56). For instance, a study of female hotel room cleaners found that the supply carts, which had been designed for average European males, were too heavy and the push bars too high for most of the room cleaners (57). These difficulties may be particularly present when women enter jobs that have traditionally been done by men (55).

There are additional ways in which sex – the biological and physiological differences between women and men – is relevant for occupational health. Some evidence

Within traditionally male occupations, women may be 2-3 times more at risk of accidents than men (58). In these jobs they also face job insecurity, resistance to change, discrimination, sexual harassment and intimidation (59,60)

indicates that differences between the sexes in genetics and hormones (in addition to lifestyle and environment) may influence their responses to toxic exposures (61,62). In addition, women and men may be impacted differently by exposures such as chemicals, radiation, vibration and heat because of their different reproductive systems. Workplace exposures can affect reproductive health in various ways: sexual functioning, menstrual health, fertility (for women and men), pregnancy, breastfeeding, certain cancers (e.g. prostate, breast, cervix), menopause and children's development. The male reproductive system, for instance, may be affected by workplace hazards through lowered sperm count, abnormal sperm shape, altered sperm transfer, altered sexual performance and adverse pregnancy outcomes (stillbirths, birth defects, etc.) (54,63,64).

3.3. Women and men have different domestic, unpaid responsibilities

Unpaid work, just like paid work, is accompanied by health risks. For example, biomass burning can lead to respiratory problems; carrying heavy loads can result in musculoskeletal or reproductive health problems (65). In many developing countries water and fuel collection for domestic purposes represents a huge burden for women. In Gujarat, India, women spend, on average, from three to four hours collecting water each day (66).

Since women perform the bulk of housework and care for children, the elderly and disabled, they are – especially in developing countries – more likely to experience long workdays as a result of combining paid and unpaid work (67). In an interview for a study on working conditions in a piecework factory, a female employee described a typical day as follows:

“You get home and there's more piecework for you there. I always say to my boss, I'm on piecework until 8:30 at night, because you have to make the meal, feed your child, give him a bath, talk to him a little.” (17)

Demands of paid and unpaid work often conflict, leading to stress, depression and fatigue (68,69) and to a decreased participation in workplace health and safety (70).

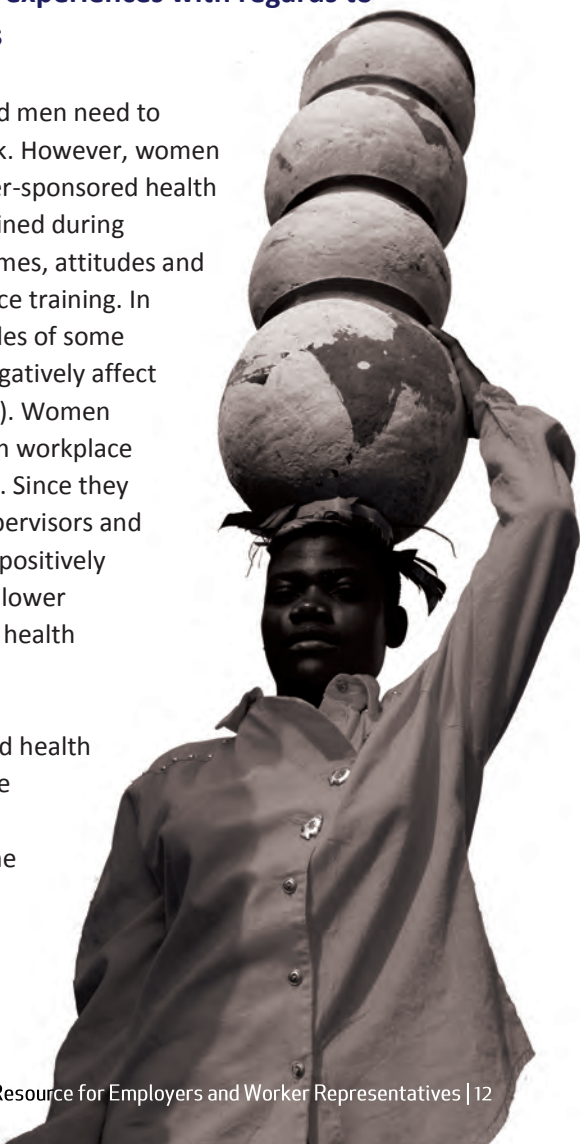
Various aspects of the work organization can complicate work-family balance. Some of the most problematic arrangements include extended work hours (mostly affecting men), variable / irregular / unpredictable schedules (mostly affecting women) (68) and lack of flexibility to leave the workplace for family emergencies.

Unfortunately, little is known about the work-family balance arrangements and strategies in low-paid or informal work (71). One study on women garment sweatshop workers in Honduras found that many lacked the social and financial resources to provide daycare for their children, leaving them unsupervised as they worked 15 hours a day, seven days a week. Others took their children to work where they too may have been exposed to hazardous environments (72). Balancing paid and unpaid activities is particularly problematic when income is low and when social and child-care services are lacking.

3.4. Women and men have different experiences with regards to preventive and responsive measures

In order to protect their health, women and men need to understand the potential risks of their work. However, women are less likely than men to receive employer-sponsored health and safety training (73,74) and to get retrained during modernization and restructuring (75). At times, attitudes and stereotypes relating to gender may influence training. In construction work, for example, the attitudes of some journeymen toward female apprentices negatively affect the on-the-job training that is provided (76). Women are also less likely than men to benefit from workplace prevention and intervention programs (41). Since they are not adequately represented among supervisors and managers, they often lack the authority to positively impact their working conditions. Women's lower position also means that they benefit from health insurance coverage less often than men.

When women do experience a work-related health problem, they are less likely than men to be diagnosed, recognized, compensated or be offered rehabilitation (77,78,79). In some cases, return-to-work options are largely



underprovided. For example, among U.S. hotel room cleaners, the majority of whom are immigrant women, only about half who have a doctor's recommendation for modified or alternate work because of a work-related health problem obtain it from their employer (80). Erroneous ideas about women's work can also contribute to inadequate rehabilitation and return to work initiatives. For instance, in some garment factories, women who are assigned to light work duties following a work-related injury or illness are taken off piecework in order to reduce their work pace but these workers continue to work on the production chain where they are exposed to pressures to work fast from colleagues (17). In general, the options for women's return to work may be circumscribed by stereotyped notions of women's fitness for jobs (81).

Box 2: The Role of Cultural Norms in Occupational Health and Safety

Cultural norms – for instance, those that value a subordinate role for women – can restrict women's access to education, thus limiting their possibilities for employment. In the workplace, prevailing gender roles of women's expected subservience can make them more vulnerable to violence and harassment than men (47,48). As well, norms relating to communication can result in women not standing up against poor working conditions (82), often left vulnerable to the whims of employers. Among men, cultural expectations of displays of strength mean that they are less open than women about mental health issues; they are less likely to seek help for their problems and more likely to vent through anger, drugs or alcohol (83)

Box 3: Women and men are not homogeneous groups!

Depending on characteristics such as age, ethnicity, socioeconomic status, sexual orientation and geographic location, women and men face different forms of social stigma and difficulties in life (84,17). The co-existence of conditions of social disadvantage (i.e. multiple disadvantage) is associated with more hazardous working conditions, fewer opportunities for training and education, reduced access to health services, exclusion from prevention and protection schemes, and greater obstacles in defending women's rights at work. Multiple disadvantage is also associated with stressful life experiences, less favourable living conditions (at home and in the community) and fewer opportunities for positive health behaviours, all of which can combine with working conditions to affect workers' health (85,86).

04

Avenues of influence for employers

Employers and worker representatives – regardless of the size of the workplace – have various opportunities to create healthy and equitable work environments for women and men. The WHO healthy workplace framework and model defines avenues of influence for a healthy workplace as the physical work environment, the psychosocial work environment, personal health resources in the workplace, and enterprise-community involvement (1). Within each of these areas we review how the needs of women and men can be addressed.

There are few documented cases of health and safety interventions in jobs predominantly held by women, especially when the jobs are low-income and in developing countries. There is also little information on the effectiveness of workplace interventions by gender even though interventions may impact women and men differently. Recently, 3 meta-analyses of ergonomic interventions were published but none included a gender or sex perspective (87,88,89). Best practice examples are few and far between, illustrating the need for intervention and research in this area.

Working towards gender equity means at times focusing on women's realities as these have traditionally been overlooked (41). It is important to consider that efforts to improve women workers' health works as a "bottoms-up" approach to workplace health and safety in that they can also impact men positively. For instance, when women were first employed as letter carriers in England, the mailbags were too heavy for some of them to carry and smaller mailbags were used. As a result, the musculoskeletal injury rate fell for both sexes.

4.1. The physical work environment

The physical work environment is one that can be detected by human or electronic senses; it includes machines, chemicals, materials, etc. Here are some ways that employers can help reduce exposure to physical hazards for women and men:

- Evaluate workplace hazards while considering the differential pattern of risk exposure of women and men. Take care not to overlook issues facing women: for example, look at “light work” critically, investigate complaints even when threshold limit values of chemicals have not been exceeded (90), etc.
- Make sure to address physical hazards affecting women. For example, allowing workers freedom to sit (91,92,93) and instituting rest breaks (94) and job rotations helps women because they are more likely to work in repetitive and prolonged postures. These changes will also help men with similar working conditions.
- Address hazards to reproductive health without restricting women’s access to jobs (95). Develop and implement policies that allow pregnant workers to transfer for the duration of the pregnancy and breastfeeding from work known or suspected to have reproductive effects. Similar protection should be extended to men and women workers who are planning a child.
- Provide both women and men with protective devices and with early education and training on task specific occupational risks (96) and occupational diseases from a gender perspective. Do this systematically and for specific work tasks.
- Re-examine and if necessary adapt tools, instruments and procedures to make sure they are adapted to both women’s and men’s bodies. This can help facilitate women’s safe entry in the workplace, as well as time spent in the workplace (97).
- In order to help prevent bringing hazardous agents home, ensure that workers have working facilities where they can wash after work and provide work clothing that is removed after work shifts and laundered for the workers.
- Provide modified or alternate work to all workers upon doctors’ recommendations immediately while enlarging the choices of alternative work for women. Through periodic evaluation, ensure that rehabilitation and return to work take into account the realities of women’s work, including aspects of the work organization, to ensure that exposure to problematic working conditions are effectively eliminated.

Box 4: Health and safety among women tea planters in India (98)

A research project with the goal of improving working conditions was conducted with women tea planters in India's Kangra District of Himachal Pradesh. Women in India are commonly engaged in plantation activities along with other farm and domestic work. Plantation work is characterized by heavy workloads, awkward postures, poor equipment and lack of training which cause strain to the cardiovascular and musculoskeletal systems. As part of the project, an ergonomic team recommended and implemented changes in technology including protective finger blades, baskets with built-in umbrellas and protective clothing. Following this initiative, energy consumption declined and posture improved. To make larger numbers of users aware of the benefits of these devices, an educational kit was developed that included pamphlets, booklets, film shows and awareness campaigns.



Box 5: Reducing women's exposure to pesticides (99)

When legislation and employer initiatives are deficient, for example in the informal sector, non-governmental programmes can successfully help reduce harmful exposures. In the agricultural sector, the Pesticide Action Network Asia has been holding workshops for women farmers focusing on pesticide use and organic farming since 1991. It has published kits dealing with pesticide use in Indonesian, Tagalog and Tamil. In India, the International Federation for Women in Agriculture and the International Institute of Rural Reconstruction based in the Philippines have developed a workbook focusing on simple technologies to help women farmers with organic farming, pests and pesticides. Similarly, the Guatemala Foundation has started outreach efforts with rural women to educate them about pesticides. The use of a gendered approach – targeting programmes to women – ensures that the information disseminated is relevant to women's specific experiences and needs.

4.2. The psychosocial work environment

The psychosocial work environment consists of such aspects as work organization, organizational culture and work-life balance. Here are some ways that employers can help reduce exposure to psychosocial hazards for women and men:

- Evaluate and address the potential differential impact of work organizational factors on the health and well-being of women and men workers.
- Encourage an explicit zero tolerance policy toward all forms of violence –including discrimination – , encouraging the reporting of violent incidents, providing support to victims of violence and other affected employees and instituting sanctions for perpetrators of violence.
- Without restricting women’s access to jobs, address women’s concerns about working alone or late and providing access to safe parking (e.g. intercom and telephone availability, night guards, video cameras, special access floor/area for night parking by women).
- Educate workers on the issue of violence affecting women and men for instance through programmes, campaigns or information material to be distributed at the time of hiring or training that cover all forms of violence and that explain avenues for help or support. Perform periodic education and training of managers and supervisors on work-family balance, workplace violence and other health and safety issues from a gender perspective.
- When possible, institute formal flextime arrangements, self-scheduling, schedule exchanges, options for periodic unscheduled leave, telework / virtual work, compressed workweek, predictability of working hours, paid or unpaid leave for family emergencies, prolonged illness of a family member, and parental leave after the birth or adoption of a child.
- Institute workplace policies on workplace daycare (to put children during working time/after school) and providing a clean, private room for breastfeeding or breast milk pumping. This would ease women’s return to work following maternity leave and be of physical and psychological benefit to the baby and thus the community.
- Establish accessible, affordable communication pathways (including access to a telephone and ability to receive messages) and flexible and accommodating work places to enable workers to attend to family responsibilities during work hours, especially emergencies.
- Institute a work culture that is supportive of family relationships and responsibilities.

Box 6: Flexitime options

Flexibility enforced from workers in response to employer needs is different from flexibility of employers in response to workers' family needs. An American consumer goods manufacturer with an around-the-clock production schedule instituted a flexitime policy that allowed employees to add 2 hours to the start or end of a shift in exchange for that time off later. Within work teams employees swapped schedules and cross training allowed for creation of a 'relief pool' to cover absences, saving the company overtime expenses (100). In another example, a higher education institution put into place a near campus drop-in child care for faculty and staff for snow days (days in which schools are cancelled because of snow fall).

Employees also commonly used flexitime options such as compressed work weeks and teleworking to better cope with demands of family (101). Both women and men, especially those with young children, benefit from formal initiatives that promote work-family balance. They experience improved personal and professional outcomes like better morale, greater commitment, reduced stress and improved physical health (68,102). For employers, payoffs of instituting work-family balance initiatives include reduced tardiness, absence and turnover and increased productivity (103). Since women are more often responsible for family responsibilities they are more likely than men to experience work-family conflict and, accordingly, to use flexibility arrangements.

4.3. Personal health resources in the workplace

Poor working conditions can have a negative effect on health behaviours. For example, in northern Thailand and Uganda, as in many other countries, the social context of factory work in export processing zones (e.g. sexual harassment, family separation) has led to workers engaging in risky behaviours, such as substance abuse and unprotected sex (104,105). The worksite can also help in the promotion of positive health behaviours, for instance through physical exercise programs during work hours (106) or obesity prevention and intervention programs (107). Programs can also address the prevention of communicable diseases or provide arenas for screening programs.

These interventions may use various methods of communication such as short films, music, leaflets, displays, workshops, etc. They involve communicating information to workers, facilitating their access to information and programs and providing them with support (108). Worksite interventions targeting self care have been shown to have a positive impact on both men and women's health, although they do not replace worksite environmental interventions. Here are some ways that employers can include issues of concern to women in their health promotion agendas:

- Especially where women are the majority of the workers, consider a health promotion agenda that address issues of interest to women (e.g. health screenings, migraines prevention programmes, lactation programmes, sexual health education, domestic violence outreach, etc.). Include topics which have traditionally been associated with men’s health but that increasingly affect women (e.g. smoking and alcohol education, cardiovascular health education, etc.)(108,109).
- Facilitate access to medical and counseling services that are gender sensitive, if possible within the work premises during work hours. In small businesses, allow workers time off to obtain health services, including preventive services.

4.4. Enterprise community involvement

It is important for businesses, large and small, to work towards broader goals of gender and health equity. Improvements in these areas will support progress in workers’ health by reducing the burden of ill health, reducing poverty and improving education. It will also help establish the business as an integral part of the community which can help promote its longevity. The United Nations Millennium Development Goals for 2015, signed by all member states and 23 international organizations, provide employers with avenues of influence at the community level. The goals include the eradication of extreme poverty and hunger, the achievement of universal access to primary education, the promotion of gender equity and women’s empowerment, the reduction of child mortality, the improvement of maternal health, and the fight against HIV/AIDS, malaria and other diseases. Of particular importance are concerns regarding water, sanitation and food which predominantly affect women (110). Here are some examples of what employers can do to promote workers’ health at the community level and in a way that considers gender differences:

- Organize activities that encourage women’s empowerment, integration and social contacts. For example, organize family-type outings on the weekends at group rates or no costs and facilitate access by providing transportation.
- Provide literacy, language, computer and other educational training on the worksite and if possible during times when workers do not have conflicting responsibilities.
- Invest in the local community by supporting projects that improve quality of life. This could be done by donating space – which could be as simple as a wall used to convey a message – or human or material resources.

4.5. The legislative context

Occupational health policy and legislation that address physical risks from a gender or sex perspective concern essentially the protection of pregnant and breastfeeding workers. In some jurisdictions, including Quebec and some Scandinavian countries, legislation provides for precautionary leave for pregnant women exposed to hazards for the foetus, the pregnant woman or the child of a nursing mother. The Quebec legislation, which includes ergonomic risks, has been shown to be effective in preventing low birth weight and premature births (111,112). However, many countries still lack legislation in this area (112). Also, compared to women, little specific legal protection is available for men exposed to reproductive hazards.

Gender-sensitive occupational health and safety legislation also include the mechanisms for handling violence, discrimination, harassment and bullying, including sexual and gender-based as found in a wide range of national and international legislations, recommendations and directives. Some countries have laws that assist work-family balance by providing for family leave in certain circumstances such as family illness or emergencies, or again by limiting businesses' opening hours. There are also laws and directives regarding equal pay and equal treatment in access to employment, training, promotion and working conditions – some of the root causes of gender segregation in employment. Again, however, many countries lack legislation in these areas (113).

In some contexts, labour laws have been extended to protect migrant workers, domestic workers and informal workers, but there are considerable gaps worldwide. Even when workers benefit from the protection of the law, enforcement (e.g. labour inspections) may be problematic for work that is informal or performed in private homes. Lack of legislative protection is often made worse by gaps in health and social services (e.g. child-care services), especially in developing countries, in rural areas, and among minorities and other vulnerable groups.

At times, the application of seemingly gender-neutral labour legislation may have unintentional discriminatory effects. For example, in many countries, claims for workers' compensation benefits for psychological problems or musculoskeletal disorders (more common among women) are sometimes excluded from the purview of the law causing systemic discrimination (114).

05

Using a gender-based approach

It is a good idea to consider gender and sex differences at all stages of workplace policies, programs and practices, including but not limited to those that aim to protect or promote workers' health. A gender-based approach or analysis (GBA) is a tool that systematically integrates a gender perspective in the design, implementation, monitoring and evaluation of policies, programmes or practices (115). In Canada, gender-based analysis has been used to evaluate equity at the policy level. In the European Union, it has been used under the heading of "gender mainstreaming" to systematically examine measures and policies for their possible effects on the respective situation of women and men.

At the workplace level, in the European Union "gender planning" has been used as a tool to promote gender equity as per a directive that encourages employers in the Member States to promote equal treatment for everyone at the workplace in a planned and systematic way (116). In Finland, it is legislated by the Equality Law for all workplaces with a permanent staff of at least 30. However, it has been difficult to implement, especially in workplaces that are strongly segregated according to gender as well as in smaller companies.

Today most equality plans include other relevant equality issues such as age, ethnicity, and work-related health. Employers can use a gender-based approach that highlights the special needs of workers that have less power and/or are less visible. This can help ensure that the occupational health policy, program or practice has intended and equitable results and that the specific issues of the less powerful or visible groups are given proper attention.

Ways to integrate a gender- and sex-specific perspective at the various stages of policies, programmes and practices are illustrated in Table 1. Table 1 is an adaptation of a plurality of resources on gender-based analysis and synonymous concepts (117-

122). The process is similar to that for implementing healthy workplace programmes as defined under the WHO Health Workplace Framework and Model. It should be noted that the process illustrated is expected to vary over local situations and conditions. Also, it does not have to be resource heavy and costly: “collecting data” can mean having discussions with employees about their experiences and needs; fostering a culture that promotes gender and health equity can be achieved by leading by example and establishing clear policies.

Table 1. Gender-based approach (GBA) to workplace initiatives

1. Define issues and goals

- Avoid making assumptions about hazards and individuals at risk.
- Be careful about gender bias in prioritizing issues.
- Ensure the equal contribution of men and women of different social groups to the definition of the issues and objectives.
- Acknowledge and address differences in social and economic power between women and men.
- Determine to what extent the proposed policy, program or practice is based on an understanding of the differences in biological sex and social roles between women and men.
- Evaluate the gap between women and men’s ability to cope with problematic situations.

2. Collect data

- Collect quantitative data on hazards and health problems prevalent in both male- and female-dominated work.
- Collect data according to sex and, when possible, other social and economic characteristics (ethnicity, language, education, income, etc.).
- Compile rates of work-related accidents and illnesses by hours worked and compare them by sex.
- Collect qualitative data: consult men and women of diverse social groups through targeted and structured approaches (e.g. surveys, focus groups, risk and health mapping, etc.).
- Collaborate with researchers in documenting occupational health issues from a gender and sex perspective, especially in employment that is “atypical”, and in agriculture and domestic work.
- Consider the entire workforce (e.g. cleaners, receptionists), including part-time, temporary or agency workers and those on maternity or sick leave.
- Discuss health and safety and gender-related issues with the union.
- Look at and ask about wider work and health issues to become agents of change.
- Foster a culture that encourages the reporting of health and safety problems and concerns by men and women workers of all social groups.

3. Assess the impact

- Assess the impact or implications of the policy, program or practice for women and men of different social groups.
- Assess how the proposed policy, program or practice will address the needs, experiences, concerns and knowledge of workers of different social groups.

4. Implement and communicate

- Integrate the policy, program or practice with a commitment to gender equality, paying attention to diverse populations.
- Ensure that the policy, program or practice is presented in language and a format that can be understood and accessed by all women and men (e.g. literature, videos, workshops, etc.) and that does not contain gender stereotypes.
- Involve women workers in the implementation process.
- Make explicit to workers the gender aspects of the initiative.
- For existing and new processes, ensure that all workers are provided with health and safety information and training relevant to their task. Ensure that part-time, temporary and agency workers are included.

5. Monitor

- Develop indicators for the evaluation of the policy, program or practice that consider issues relevant to men and women workers of diverse social groups.
- Examine the differential impact of the initiative by gender and, when possible, other social characteristics.
- Ensure that women participate in the monitoring and review processes.

6. Evaluate

- Determine if the policy or program resulted in equal outcomes for men and women of diverse social groups.
- Report results to union, health and safety and women's committees.
- Learn lessons and spread best practice.

5.1. Some do's

Be proactive: take preemptory action against potential problems.

- Collect data on work-related risks and health problems with the goal of anticipating problems for women and men (123).

Quantitative data involve measures of quantity and where there is an attempt to minimize the contribution of the researchers' judgments and perceptions to the conclusions. **Qualitative data** are data that are analyzed explicitly profiting from different people's judgments and perceptions (124). Collecting data does not require specialized knowledge and resources. In a small business, it may be as simple as talking to the workers about their experiences and needs.

- Challenge stereotypes: avoid making assumptions about dangers and populations at risk. Combat stereotyping among the workforce and among staff through information campaigns, training sessions on non-sexist practices, or simply by leading by example.
- Consider the potential differential impact of proposed changes on women and men. Devise solutions with the goal of gender equity.
- Provide all workers with training adapted to the task that includes information on health and safety, in a format that is appropriate to the worker's cultural references, literacy, education and proficiency in the dominant language (125).
- Routinely assess and adjust workstation and equipments and distribute information and protective equipment systematically (without the workers having to ask). This is especially important to address the needs of vulnerable workers who may be reluctant or unable to communicate their health and safety concerns.
- Respect labour, health and equity legislations and, when possible, provide gender-sensitive health/medical and counseling services at the workplace

Involve workers

Improvements related to healthy workplace programs are more prominent when worker participation is high (4).

- Involve workers in consultation and decisions at all stages of projects. This could be done through participation in small workshops or even through one-on-one discussions.
- Foster the participation of women and men of different ages, languages, cultures and abilities in healthy workplace programs in order to ensure equity in outcome. Include all occupational groups (e.g. cleaners, receptionists), part-time, temporary and agency workers, and workers on leave.
- Encourage women and workers of under-represented groups to participate in health and safety committees and management where they can be encouraged to take leadership roles and be offered real choices and opportunities.
- Determine appropriate methods of gathering and disseminating information that take into account culture – including gender norms –, literacy, education and proficiency in the dominant language. Simple tools such as pictures can assist in this (82).
- Create a climate conducive of women’s concerns being taken seriously.
- Hold meetings at times when women are free from family responsibilities.

Collaborate with stakeholders

Whenever possible, collaborate with unions, community organizations, government agencies and researchers in order to improve workers’ health. Ensure women’s representation among these stakeholders.

- Unions and community organizations can help identify priority issues, help in the implementation of solutions, and provide information on larger work and health issues.
- Governments can be allies in finding solutions to improve work-family balance (e.g. childcare or eldercare programs) or regulate sexual relations in the workplace (e.g. sexual harassment laws) (126,127). Local, national and

international government agencies can provide information, guidelines and tools for prevention and intervention targeted at women and men's jobs and issues.

- Researchers can assist in documenting hazards and health problems arising in jobs usually held by women as well as biological and social parameters specific to the sexes and their impact on workers' health.

Box 7: Researchers, employers and NGO's collaborate to improve conditions in Chilean fish processing factories (128)

Chile is the world's leading producer of fish meal. This intensive production causes large scale environmental pollution and unclean and unpleasant working conditions for the women working in the factories. In 1991, three women professors at the University of Concepción, in the departments of chemical engineering and pharmacology, decided to try to develop a solution. They performed laboratory experiments (for instance on ways to convert residues into products), worked with the factories to raise awareness of the problems, and worked with UNIDO – the United Nations Industrial Development Organization – which assisted in implementing the project. The women at the University of Concepción utilized their contacts in the fish meal industry, most of whom are also women, to persuade them to support the initiative and implement the cleaner technologies and modified processes. The project, which is being implemented across other sites, benefited women workers through cleaner factories and overall improvement in environmental conditions.



06

How can worker representatives incorporate a gender perspective to health and safety ? ⁽¹²⁹⁾

Table 2. What workers' representatives can do

- Ensure that women's committees work with health and safety committees. This is to ensure that women participate in the work of these committees and that their concerns are taken into account.
- Encourage women to get involved in union life and in occupational health and safety activities at all levels, including leadership (women's participation can be facilitated by providing safe and reliable transport and childcare for union meetings) (130).
- Provide relevant training and information on gender issues to representatives.
- Ensure that the workplace agreement as well as employer health and safety initiatives recognize and address gender and sex differences.
- Consult with men and women of diverse social groups, for example through workshops.
- Collect data on work-related accidents and illnesses by sex.
- Regularly review accidents and illnesses statistics; discuss results at joint occupational health and safety or consultative meetings.
- Facilitate workers' participation in employer-led consultation and decision-making.

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- Encourage workers to use their right to refuse work in the case of work-related hazards (workers have this right in certain jurisdictions only) and inform them of the importance of reporting work-related health problems, health problems made worse by work as well as near misses.

-
- Ensure that all sections of the workforce, including predominantly female occupational groups and part-time and temporary staff, have access to a union safety representative; ensure that women are represented among safety representatives.

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- Support women's efforts to protect their health and provide support for women faced with occupational health or compensation problems, for example in the form of support groups or assistance in gaining recognition for their work-related illnesses.
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07

Conclusions

Health and safety initiatives in the informal, small business and home sectors must rely on empowerment, education, policies and legislations and be led largely by community and government. Examples of possible government interventions include guaranteeing minimum labour standards, occupational health and safety (e.g. ergonomic regulations) and compensation to all workers without exclusion on the basis of occupation, migration status, employment relationship or nature of the health problem; adopting or expanding legislation on maternity, paternity and child-care leave and leave due to prolonged illness of a family member; and facilitating work-family balance through public programmes.

There is also a need for more research on the risks and health problems facing women workers within and across occupations, and for more gender-sensitive occupational health research in general. There is a particular need for high-quality research to be conducted in developing countries. Examples of areas researchers may wish to focus on include: the health and safety issues present in informal and flexible employment and in domestic (paid and unpaid) work; the role of migration in shaping women's and men's occupational health experiences; and the role of cumulative exposures at work, at home and in the community in determining the health outcomes for women and men of different social groups.

Employers can do various things to be sensitive to gender and sex differences when tackling occupational health issues. They can ensure that they not overlook the physical and psychosocial risks and health problems common in women's jobs and make improvements in the way of gender equity in the areas of health promotion and community health. In addition, they can use a gender-based approach when developing and implementing a workplace policy, program or practice, whether or not it aims at improving workers' health. A gender-based approach asks of employers to be proactive, to involve female and male workers at all stages of the process and

to collaborate with stakeholders. Worker representatives can also play an important role in the creation of healthy and equitable workplaces by documenting real work situations, providing workers with information, encouraging their participation, and supporting them in their individual and collective efforts – while at the same time taking into account women and men’s different realities.



08

References

1. Burton J. WHO healthy workplace framework and model: Background and supporting literature and practice. Geneva, World Health Organization, 2010.
2. Gender Impact Assessment: Framework for gender mainstreaming. London, Overseas Development Institute, 2010 (http://www.odi.org.uk/rapid/tools/toolkits/EBP/Gender_impact.html, accessed 7 March 2010)
3. Pun JC et al. Education of garment workers: prevention of work related musculoskeletal disorders. *Aaohn Journal*, 2004, 52:338–343.
4. Kobayashi Y et al. Effects of a worker participatory program for improving work environments on job stressors and mental health among workers: a controlled trial. *Journal of Occupational Health*, 2008, 50:455–470.
5. Gallo ML. Picture this: immigrant workers use photography for communication and change. *Journal of Workplace Learning*, 2002, 14:49–457.
6. Tompa E et al. A systematic review of occupational health and safety interventions with economic analyses. *Journal of Occupational and Environmental Medicine*, 2009, 51:1004-1023.
7. Collins JW et al. An evaluation of “best practices” musculoskeletal injury prevention program in nursing homes. *Injury Prevention*, 2004, 10:206-211.
8. Messing K, Ostlin P. Gender equality, work and health: a review of the evidence. Geneva, World Health Organization, 2006.
9. World Health Organization. What do we mean by sex and gender? Geneva, World Health Organization, 2010 (<http://www.who.int/gender/whatisgender/en/index.html>, accessed 7 March 2010)
10. Chamberland A et al. Anthropometric survey of the Land Forces (LF97). Toronto, ON, Defense and Civil Institute of Environmental Medicine, 1998 (Contractor Report 98-CR-15).
11. The American Heritage College Dictionary, 3rd edition. Boston: Houghton Mifflin Company, 1993.

12. Women in labour markets. Measuring progress and identifying challenges. Geneva, International Labour Office, 2010.
13. Quick stats on women workers, 2008. Washington, DC, U.S. Department of Labor, 2010 (<http://www.dol.gov/wb/stats/main.htm>, accessed 1 February 2010)
14. Labour force survey 2007–2008. Islamabad, Pakistan Federal Bureau of Statistics, 2008.
15. Working conditions in the European Union: the gender perspective. Dublin, European Foundation for the Improvement of Living and Working Conditions, 2007.
16. Hausmann R, Tyson LD, Zahidi S. The global gender gap report. Geneva, World Economic Forum, 2008.
17. Premji S, Lippel K, Messing K. "We work by the second!" Piecework remuneration and occupational health and safety from an ethnicity- and gender-sensitive perspective. *Pistes*, 2008, 10.
18. Decent work and the informal economy. Geneva, International Labour Office, 2002.
19. Women and men migrant workers: moving towards equal rights and opportunities. Geneva, International Labour Office, ND (http://www.ilo.org/wcmsp5/groups/public/---dgreports/---gender/documents/publication/wcms_101118.pdf, accessed 3 February 2010)
20. International labour migration. A rights-based approach. Geneva, International Labour Office, 2010.
21. Martin P. Climate change, agricultural development, and migration. Washington, German Marshall Fund of the United States, 2010 (http://www.gmfus.org/galleries/default-file/PMartin_V2.pdf, accessed 1 September 2010)
22. Ransom, P. Women, pesticides and sustainable agriculture. New York, NY, Commission on Sustainable Development Women's Caucus, 2010 (<http://www.earthsummit2002.org/wcaucus/Caucus%20Position%20Papers/agriculture/pestices1.html>, accessed 1 February 2010).
23. The world's women 2000: trends and statistics. New York, United Nations Statistical Division, 2000.
24. Progress of the World's Women 2005: Women, Work and Poverty. New York, United Nations Development Fund for Women, 2005.
25. Vosko LF. Temporary work: the gendered rise of a precarious employment relationship. Toronto, ON, University of Toronto Press Incorporated, 2000.
26. Emmett B. Paying the price for the economic crisis. Boston, MA, Oxfam, 2009 (<http://www.oxfam.org/sites/www.oxfam.org/files/paying-the-price-for-global-economic-crisis.pdf>, accessed 30 October 2010).

27. European Agency for Safety and Health at Work. Outlook 1 – new and emerging risks in occupational safety and health. Luxembourg, Office for Official Publications of the European Communities, 2009 (http://osha.europa.eu/en/publications/outlook/en_te8108475enc.pdf, accessed 29 October 2010).
28. Romito P. Work and health in mothers of young children. *International Journal of health Services: planning, administration, evaluation*, 1994, 24:607-628.
29. Razavi S. *Gendered poverty and well-being*. Oxford, Blackwell, 2000.
30. Facts on safety at work. Geneva, International Labour Office, 2005 (http://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/publication/wcms_067574.pdf, accessed 1 February 2010).
31. House Committee on Education and Labor. *Hidden tragedy: underreporting of workplace injuries and illnesses*. Washington, DC, United States House of Representatives, 2008.
32. Tawatsupa B et al. The association between overall health, psychological distress, and occupational heat stress among a large national cohort of 40,913 Thai workers. *Global health action*, 2010, 3:10.3402/gha.v3i0.5034 (DOI)
33. Rugulies R, Scherzer T, Krause N. Associations between psychological demands, decision latitude, and job strain with smoking in female hotel room cleaners in Las Vegas. *International Journal of Behavioral Medicine*, 2008, 15: 34-43.
34. Kivimaki M et al. Effort-reward imbalance, procedural injustice and relational injustice as psychosocial predictors of health: complementary or redundant models? *Occupational and Environmental Medicine*, 2007, 64: 659-665
35. Messing K. Physical exposures in work commonly done by women. *Canadian Journal of Applied Physiology*, 2004, 29: 639-656.
36. Parkin DM. The global health burden of infection-associated cancers in the year 2002. *International Journal of Cancer*, 2006, 118:3030–3044.
37. Schiffman M et al. Human papillomavirus and cervical cancer. *The Lancet*, 2007 370:890–907.
38. Nemoto T et al. HIV risk among Asian women working at massage parlors in San Francisco. *AIDS Education and Prevention*, 2003, 15:245–256.
39. Centers for Disease Control and Prevention. Occupational injuries and deaths among young workers – United States, 1998–2007. *Morbidity and Mortality Weekly Report*, 2010, 59:449-476.
40. European Commission. Employment, Social Affairs and Equal Opportunities. *Health and safety at work in Europe (1999–2007) – a statistical portrait*. Luxembourg, Office for Official Publications of the European Communities, 2010 (Eurostat Statistical Books; http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-31-09-290/EN/KS-31-09-290-EN.PDF, accessed 29 October 2010).
41. Messing K. *One-eyed science: occupational health and women workers*. Philadelphia, PA, Temple University Press, 1998.

42. Bureau of Labor Statistics. Annual survey of occupational injuries and illnesses. Number of nonfatal occupational injuries and illnesses involving days away from work for three selected nature of injury or illness categories by selected worker and case characteristics, 1999. Washington, United States Department of Labor, 1999.
43. Bureau of Labor Statistics. Annual survey of occupational injuries and illnesses. Number and percent of nonfatal occupational injuries and illnesses involving days away from work, involving repetitive motion by selected worker and case characteristics, Washington, United States Department of Labor, 1999.
44. Heiskanen M. Violence at work in Finland; trends, contents, and prevention. *Journal of Scandinavian Studies in Criminology and Crime Prevention*, 2007, 8:22–40.
45. Hogh A, Sharipova M, Borg V. Incidence and recurrent work-related violence towards healthcare workers and subsequent health effects. A one-year follow-up study. *Scandinavian Journal of Public Health*, 2008, 36:706-712.
46. Lippel K. Les agressions au travail: un même traitement pour les travailleurs et les travailleuses? *Recherches Féministes*, 2001, 14:83-108.
47. Hoel H, Sparks K, Cooper CL. The cost of violence / stress at work and the benefits of a violence / stress-free working environment. Geneva, International Labour Organization, 2001.
48. Mayhew C, Chappell D. Workplace violence: an overview of patterns of risks and the emotional/stress consequences on targets. *International Journal of Law and Psychiatry*, 2007, 30:327–339.
49. De Raeve L et al. Interpersonal conflicts at work as a predictor of self-reported health outcomes and occupational mobility. *Occupational and Environmental Medicine*, 2009, 66: 16-22.
50. Krieger N et al. The inverse hazard law: blood pressure, sexual harassment, racial discrimination, workplace abuse and occupational exposures in US low-income black, white and Latino workers. *Social Science and Medicine*, 2008, 67:1970-1981.
51. Fitzgerald, L. Sexual harassment: violence against women in the workplace. *American Psychologist*, 1993, 48: 1070-1076.
52. Bond MA et al. Gendered work conditions, health, and work outcomes. *Journal of Occupational Health Psychology*, 2004, 9: 28-45.
53. Vezina N, Tierney D, Messing K. When is light work heavy? Components of the physical workload of sewing machine operators working at piecework rates. *Applied Ergonomics*, 1992, 23: 268-76.
54. Herdt-Losavio ML et al. Maternal occupation and the risk of birth defects: an overview from the National Birth Defects Prevention Study. *Occupational and Environmental Medicine*, 2009, 67:58–66.

55. Courville J, Vezina N, Messing K. Comparison of the work activity of two mechanics: a woman and a man. *International Journal of Industrial Ergonomics*, 1991, 7:163–174.
56. Taiwo OA et al. Sex differences in injury patterns among workers in heavy manufacturing. *American Journal of Epidemiology*, 2009, 169:161–166.
57. Seifert AM, Messing K. Cleaning up after globalization: an ergonomic analysis of work activity of hotel cleaners. *Antipode*, 2006, 38: 557-578.
58. Messing, K, Seifert, AM, Couture, V. Les femmes dans les métiers non-traditionnels: le général, le particulier et l'ergonomie. *Travailler*, 2005, 15: 131-148.
59. Paoli P, Merllie D. Third European Survey on Working Conditions 2000. Dublin, European Foundation for Improvement of Living and Working Conditions, 2001.
60. Moir S, Azaroff LS. The Boston-area research circle on health and safety for women in Construction: an innovative participatory methods for coloring in the picture of a special work environment. *New Solutions*, 2007, 17: 123-136.
61. Gochfeld M. Framework for gender differences in human and animal toxicology. *Environmental Research*, 2007, 104:4–21.
62. Vahter M et al. Implications of gender differences for human health risk assessment and toxicology. *Environmental Research*, 2007, 104: 70-84.
63. The effects of workplace hazards on male reproductive health. Atlanta, GA, The National Institute for Occupational Safety and Health (NIOSH), 1997 (Publication No. 96-132; <http://www.cdc.gov/niosh/malrepro.html>, accessed 15 August 2010).
64. Parker L et al. Stillbirths among offspring of male radiation workers at Sellafield nuclear reprocessing plant. *The Lancet*, 1999, 354:1407–1414.
65. Amoli K. Bronchopulmonary disease in Iranian housewives chronically exposed to indoor smoke. *European Respiratory Journal*, 1998, 11:659–663.
66. Human Development Report 2006. Beyond scarcity: power, poverty and the global water crisis. New York, NY, United Nations Development Programme (UNDP), 2006.
67. Burda M, Hamermesh DS, Weil P. Total work, gender and social norms. Cambridge, National Bureau of Economic Research, 2007 (NBER Working Paper Series No. 13000).
68. Duxbury L, Higgins C. Work-life balance in the new millennium: where are we? Where do we need to go? Ottawa, Canadian Policy Research Network, 2001 (CPRM Discussion Paper No. W12).
69. Manuh T. Women in Africa's development. New York, NY, Africa Recovery Online, United Nations, 1998 (<http://www.un.org/ecosocdev/geninfo/afrec/bpaper/maineng.htm>, accessed 15 August 2010).
70. Cullen JC, Hammer, LB. Developing and testing a theoretical model linking work-family conflict to employee safety. *Journal of Occupational Health Psychology*, 2007, 12: 266-278.

71. Bernier ME. Recherche documentaire exploratoire sur la conciliation travail-famille. Service aux collectivités, Université du Québec à Montréal, 2008.
72. Heymann J. Forgotten families. Ending the growing crisis confronting children and working parents in the global economy. New York, NY, Oxford University Press, 2006.
73. Smith PM, Mustard CA. How many employees receive safety training during their first year of a new job? *Injury Prevention*, 2007, 13: 37-41.
74. Cooke GB, Zeytinoglu IU, Chowhan J. Barriers to training access. *Perspectives on Labour and Income*, 2009, 10: 14-25.
75. Kumar A et al. Women Workers: Inequalities at Work: Report of the Survey of Women Workers' Working Conditions in Industry. South Asian Research and Development Initiative (SARDI), 1999.
76. Women in the construction workplace: providing equitable safety and health protection. Washington, Occupational Safety and Health Administration, 1999 (<http://www.elcosh.org/en/document/582/d000561/women-in-the-construction-workplace%253A-providing-equitable-safety-and-health-protection.html>, accessed 7 March 2010)
77. Cox R, Lippel L. Falling through the legal cracks: the pitfalls of using workers' compensation data as indicators of work-related injuries and illnesses. *Policy and Practice in Health and Safety*, 2008, 6: 9-30.
78. Lippel K. Workers' compensation and stress: gender and access to compensation. *International Journal of Law and Psychiatry*, 1999, 22: 79-89.
79. Clapham K. Experiencing occupational rehabilitation in NSW: Non-English speaking background women's views. *Australian Journal of Social Issues*, 1994, 29: 26-43.
80. Premji S, Krause N. Disparities by ethnicity, language and immigrant status in occupational health experiences among Las Vegas hotel room cleaners. *American Journal of Industrial Medicine*, 2010, 53: 960-75.
81. Lippel K, Demers D. in Messing K. (ed.) *Integrating Gender in Ergonomic Analysis*. Brussels, European Trade Union Technical Bureau for Health and Safety. Brussels, 1999, Study 11, pp 138-140.
82. Premji S, Messing K, Lippel K. Broken English, broken bones? Mechanisms linking language proficiency and occupational health in a Montreal garment factory. *International Journal of Health Services*, 2008, 38:1-19.
83. Addis M. Men and mental health. Get it off your chest. London, Mind, 2009.
84. Chiron E et al. Les TMS et le maintien en emploi des salariés de 50 ans et plus: un défi pour la santé au travail et la santé publique [MSDs and job security of employees aged 50 years and over: a challenge for occupational health and public health]. *Santé Publique*, 2008, 20:S19-S28.
85. Frumkin H, Pransky G. Special populations in occupational health. *Occupational Medicine*, 1999, 14:479-484.

86. Dembe A. Social inequalities in occupational health and health care for work-related injuries and illnesses. *International Journal of Law and Psychiatry*, 1999, 22:567–579.
87. Tompa E et al. A systematic review of workplace ergonomic interventions with economic analyses. *Journal of Occupational Rehabilitation*, 2010, 20: 220-34.
88. Kennedy CA et al. Systematic review of the role of occupational health and safety interventions in the prevention of upper extremity musculoskeletal symptoms, signs, disorders, injuries, claims and lost time. *Journal of Occupational Rehabilitation*, 2010, 20: 127-62.
89. Irvin E et al. Introduction to special section: systematic reviews for prevention and management of musculoskeletal disorders. *Journal of Occupational Rehabilitation*, 2010: 123-6.
90. Your health and safety at work. Male and female reproductive hazards in the workplace. Geneva, International Labour Organization, 2010 (<http://actrav.itscilo.org/actrav-english/telearn/osh/rep/prod.htm>, accessed 7 March 2010)
91. Tissot F, Messing K, Stock S. Distal lower-extremity pain and work postures in the Quebec population. *American Journal of Public Health*, 2008, 98: 705-13.
92. Dababneh AJ et al. Impact of added rest breaks on the productivity and well being of workers. *Ergonomics*, 2001, 44: 164-174.
93. Tissot F, Messing K, Stock S. Studying the relationship between low back pain and working postures among those who stand and those who sit most of the working day. *Ergonomics*, 2009, 52: 1402-18.
94. Galinsky T et al. Supplementary breaks and stretching exercises for data entry operators. *American Journal of Industrial Medicine*, 2007, 50: 519-527.
95. Daniels CR, Paul M, Rosofsky R. Health, equity and reproductive risks in the workplace. *Journal of Public Health Policy*, 1990, 11: 449-462.
96. Kishore GS et al. Effectiveness of an educational program to promote pesticide safety among pesticide handlers of South India. *International Archives of Occupational and Environmental Health*, 2008, 81: 787-95.
97. Messing K, Stevenson J. Women in Procrustean beds: strength testing and the workplace. *Gender Work & Organization*, 1996, 3: 156-167.
98. Kishtwaria J. An ergonomic assessment of women workers involved in tea plantation in Himachal Pradesh. *Journal of Human Ecology*, 2004, 16: 223-226.
99. What are the gender health risks of pesticide use for women? Toronto, Association for Women’s Rights in Development, 2008 (<http://www.awid.org/eng/Issues-and-Analysis/Library/What-are-the-gender-health-risks-of-pesticide-use-for-women>, accessed March 7 2010)
100. Richman A. et al. Innovative workplace flexibility options for hourly workers. Washington, Corporate Voices for Working Families, 2009.

101. Flexible work options training materials for managers and staff. University of Pennsylvania Division of Human Resources, 2007 (<http://www.hr.upenn.edu/Quality/Worklife/FlexOptions/Training.aspx>, accessed 7 March 2010)
102. Joyce K et al. Flexible working conditions and their effects on employee health and wellbeing. *Cochrane Database of Systematic Reviews*, 2010, Issue 2.
103. Taylor C. The corporate response to rising health care costs. Ottawa, Conference Board of Canada, 1996.
104. Theobald S. Gendered bodies: recruitment, management and occupational health in northern Thailand's electronics factories. *Women Health*, 2002, 35:7–26.
105. Buregyeya E et al. HIV risk behavior and work in Uganda: a cross-sectional study. *East African Journal of Public Health*, 2008, 5:43-48.
106. Von Thiele SU, Lindfors P, Lundberg U. Health-related effects of worksite interventions involving physical exercise and reduced workhours. *Scandinavian Journal of Work, Environment and Health*, 2008, 34: 179-188.
107. Williams AE et al. Work, weight, and wellness: the 3w program: a worksite obesity prevention and intervention trial. *Obesity*, 2007, 15: 15-26.
108. Linos A, Kirch W. (eds). *Promoting Health for Working Women*. New York, Springer, 2008.
109. Berry PA. Migraine disorder: workplace implications and solutions. *AAOHN Journal*, 2007, 55: 51-56.
110. Integrating poverty and gender into health programmes – a sourcebook for health professionals. Module on water, sanitation and food. Geneva, World Health Organization, 2009.
111. Croteau A, Marcoux S, Brisson C. Work activity in pregnancy, preventive measures, and the risk of delivering a small-for-gestational-age infant. *American Journal of Public Health*, 2006, 96: 846-855.
112. Croteau A, Marcoux S, Brisson C. Work activity in pregnancy, preventive measures, and the risk of preterm delivery. *American Journal of Epidemiology*, 2007, 166: 951-965.
113. *Stopping sexual harassment at work*. Brussels, International Trade Union Confederation, 2008.
114. Lippel K. Compensation for musculoskeletal disorders in Quebec: systemic discrimination against women workers? *International Journal of Health Services*, 2003, 33:253–281.
115. Gender-based analysis. Ottawa, Health Canada, 2003 (<http://www.hc-sc.gc.ca/hl-vs/pubs/women-femmes/gender-sexes-eng.php>, accessed 7 March 2010)
116. *Gender equality and diversity planning at workplaces (GED-PLAN)*. Brussels, European Commission, 2008.
117. *Gender Impact Assessment : Framework for gender mainstreaming*. London, Overseas Development Institute, 2009 (http://www.odi.org.uk/rapid/tools/toolkits/EBP/Gender_impact.html, accessed 7 March 2010).

118. Principles of gender-based analysis of health care reform. Toronto, Women and Health Care Reform, 2009.
119. Factsheet 43: Including gender issues in risk assessment. Bilbao, European Agency for Safety and Health at Work, 2003 (<http://osha.europa.eu/en/publications/factsheets/43>, accessed 9 July 2011)
120. Morris M. Gender-based analysis guide. Ottawa, Human Resources and Skills Development Canada, 1997.
121. Manual for gender mainstreaming of employment policies. Brussels, European Commission, 2007 (<http://www.bka.gv.at/DocView.axd?CobId=24877>, accessed 9 July 2011)
122. Gender issues in safety and health at work. Luxembourg, European Agency for Safety and Health at work, 2003 (<http://osha.europa.eu/en/publications/reports/209>, accessed 9 July 2011)
123. For an example see: Brito J, Neves MY, Athayde M. Questions related to a research intervention carried out with female and male public school workers. *New Solutions*, 2007, 17: 111-121.
124. Canadian International Development Agency. Guide to gender-sensitive indicators. Ottawa, Minister of Public Works and Government Services Canada, 1997.
125. For an example see: La prévention sous toutes ses coutures. Quebec. Commission de la santé et de la sécurité du travail (<http://www.csst.qc.ca/asp/prevention/couture.asp>, accessed 9 July 2011).
126. Gottfried H, Reese LA. Equity in the workplace: gendering workplace policy analysis. Oxford, Lexington Books, 2004.
127. Lachmann H, Larose C, Penicaud M. Bien-être et efficacité au travail – 10 propositions pour améliorer la santé psychologique au travail. Paris, Rapport fait à la demande du premier ministre, 2010.
128. Women, industry and environment. Vienna, Unido, 1995. (http://www.its.caltech.edu/~e105/readings/women_environ.pdf, accessed July 9 2011)
129. Largely based on: TUC gender and occupational safety and health “gender-sensitivity checklist”. London, Trades Union Congress, 2008 (<http://www.bawp.org/assets/file/TUC%20gender%20H&S%20checklist.pdf>, accessed 9 July 2011)
130. Case study: South African Commercial, Catering and Allied Workers Union (SACCAWU), Toronto, Gender at Work (<http://www.gendematwork.org/saccawu>, accessed July 9 2011)

Around the world women and men experience different realities at work, at home and in their communities, with women often at a disadvantage relative to men. This document provides employers and worker representatives with tools to build healthy and equitable workplaces for women and men while bringing needed attention to issues predominantly affecting women. The document includes 1) ways to address the needs of women and men in the areas of physical and psychosocial health, personal health resources and enterprise-community involvement and; 2) a checklist that helps think about sex (biological) and gender (social) differences between women and men at all stages of workplace policies, programmes and practices.

“Treating everyone the same”, although well-intentioned, can result in missed opportunities to consider the specific needs and experiences of different groups. For instance, providing all workers with equipment of the same size ignores differences in average body dimensions between women and men. This can lead to the equipment being difficult to use or even dangerous for one of the sexes.

