European Agency for Safety and Health at Work

ISSN: 1831-9343

New risks and trends in the safety and health of women at work

European Risk Observatory

A summary of an agency report

European Agency for Safety and Health at Work

Contributors

Summary of a report prepared for the European Agency for Safety and Health at Work by the Topic Centre Occupational Safety and Health (task leader Roxane Gervais, HSL, United Kingdom).

Project management: Elke Schneider, European Agency for Safety and Health at Work (EU-OSHA)

With contributions from:

Eva Flaspöler, Angelika Hauke, Dorothea Koppisch, Dietmar Reinert, (IFA), Institut für Arbeitsschutz der Deutschen Gesetzlichen Unfallversicherung, Germany

Theoni Koukoulaki, (ELINYAE), Hellenic Institute for Occupational Health and Safety, Greece.

Gediminas Vilkevicius, (LZUU), Lietuvos Žemės Ūkio Universitetas, Lithuania

Mónica Águila Martínez-Casariego, Myriam Baquero Martínez, Luis González Lozar, Sofía Vega Martínez, Sara López Riera, (INSHT), Instituto Nacional de Seguridad e Higiene en el Trabajo, Spain

Louise Carter, Christine Leah, Roxane Gervais, (HSL), Health and Safety Laboratory, United Kingdom

Juliet Hassard, (I-WHO), Institute of Work, Health & Organisations, United Kingdom.

Cross-checker: Simon Kaluza, (BAuA), Federal Institute for Occupational Safety and Health, Germany

More information on the European Union is available on the Internet (http://europa.eu).

Cataloguing data can be found on the cover of this publication.

Luxembourg:

ISBN: 978-92-9240-153-5

doi: 10.2802/69206

Table of contents

Executive summary 5
Method 6
What this report adds to the knowledge 7
Differences between Member States 9
Trends in female employment and how they impact on OSH 10
Occupational segregation 12
Informal work 15
Female migrant workers 17
Accidents at work 18
Exposures, health problems and occupational diseases 20
Combined exposures 31
Disability and rehabilitation 34
Conclusions for policy, research and prevention 35
Gender mainstreaming and OSH — examples of successful implementation 42
References 47

List of figures and tables:

Figure 1: Main employment sectors of women, EU-27, 2000–2007. Women employed, aged 15 years and over (thousands) 13
Figure 2: Main employment sectors of women, EU-27, 2008–2012, NACE Rev. 2. Women employed, 15 years and over (thousands) 13
Figure 3: Female employment in EU-27 by economic sector, ages 15–24, in 2000 and 2007 14
Figure 4: Female employment in EU-27 by economic sector, ages 50–64, in 2000 and 2007 14
Figure 5: Standardised incidence rate of accidents at work by economic activity, severity and sex (per 100,000 workers), EU-15, 1995–2006 19

Table 1: Examples of potential exposures to dangerous substances for female workers 26
Table 2: Combined risks — a major issue for women at work 32
Table 3: Examples of hazards and risks found in female-dominated occupations 33
Table 4: How employment trends and combined exposures may impact on women's OSH 36
Table 5: Women and health at work — examples of gender-sensitive studies and policies included in this report 43

Abbreviations

EC	European Commission
EDC	endocrine-disrupting compound
ESAW	European Statistics on Accidents at Work
ETUI-REHS	European Trade Union Institute for Research, Education and Health and Safety
EU	European Union
EU-12	European Union Member States having adopted the single currency: BE, DE, EL, ES, FR, IE, IT, LU, NL, AU, PT, FI
EU-15	European Union, 15 Member States before 1 May 2004: EU-12 plus DK, SE and UK
EU-25	European Union, 25 Member States after 1 May 2004: BE, CZ, DK, DE, EE, EL, ES, FR, IE, IT, CY, LV, LT, LU, HU, MT, NL, AT, PL, PT, SI, SK, FI, SE, UK
EU-27	European Union, 27 Member States: BE, BG, CZ, DK, DE, EE, EL, ES, FR, IE, IT, CY, LV, LT, LU, HU, MT, NL, AT, PL, PT, RO, SI, SK, FI, SE, UK
EU-28	European Union, 28 Member States: BE, BG, CZ, DK, DE, EE, EL, ES, FR, IE, IT, CY, LV, LT, LU, HU, HR, MT, NL, AT, PL, PT, RO, SI, SK, FI, SE, UK
EU-LFS	European Labour Force Survey
EU-OSHA	European Agency for Safety and Health at Work
Eurofound	European Foundation for the Improvement of Living and Working Conditions
Eurostat	European statistics — the Statistical Office of the European Communities
EWCS	European Working Conditions Survey
FIOH	Finnish Institution of Occupational Health
Horeca	Hotel, restaurant and catering
HSE	Health and Safety Executive
MSD	musculoskeletal disorder
NACE	Statistical Classification of Economic Activities in the European Community
NIOSH	National Institute for Occupational Safety and Health
OSH	Occupational Safety and Health
SMEs	small and medium-sized enterprises

Country codes

Two-letter code	Country
BE	Belgium
BG	Bulgaria
CZ	Czech Republic
DK	Denmark
DE	Germany
EE	Estonia
IE	Ireland
EL	Greece
ES	Spain
FR	France
HR	Croatia
IT	Italy
CY	Cyprus
LV	Latvia
LT	Lithuania
LU	Luxembourg
HU	Hungary
MT	Malta
NL	Netherlands
AT	Austria
PL	Poland
PT	Portugal
RO	Romania
SI	Slovenia
SK	Slovakia
FI	Finland
SE	Sweden
UK	United Kingdom

Executive summary

In 2009 and 2010, the Agency commissioned an update to its previous research on gender issues at work (EU-OSHA, 2003), which found that inequality both within and outside the workplace can have an effect on the health and safety of women at work. This report provides that update and the first figures on the effects of the recent economic downturn on women at work. It aims to fulfil the task outlined by the European strategy on health and safety at work (EC, 2002) for EU-OSHA's European Risk Observatory: 'examining the specific challenges in terms of health and safety posed by the more extensive integration of women in the labour market'.

Gender inequalities in the workplace and work–life balance issues have become increasingly important as the employment rates of women have continued to grow in all Member States. Although in 2012 58.6 % of working age women (in the EU-27) were in employment and women filled 59 % of all newly created jobs in 2009([1]), the extent to which women contribute economically still seems to be underestimated. At its start, women were affected less than men by the recent economic crisis, as the first jobs to be lost were mostly in the male-dominated construction and manufacturing industries. However, between 2008 and 2012, European gender differences in employment fell by an average of 7.6 to 6.3 percentage points, mainly because male employment rates fell more than those of women, which have returned to the 2007 level. A modern organisation of work, a knowledge economy, competitiveness and more and better jobs are central to the post-2010 Lisbon Strategy and the EU's 2020 Strategy. Women are essential to the workforce in terms of providing an active and sustainable source of labour, and in June 2010 the European Council set a new, ambitious target aiming to raise the employment rate for women and men aged 20–64 to 75 % by 2020, partly through the greater participation of young people, older workers and low-skilled workers and the better integration of legal migrants. However, although employment rates for women are rising, much remains to be done, especially for older and younger women, to reach this goal and at the same time ensure decent work for all.

The issue of occupational safety and health (OSH) for women who work in the European Union (EU) is central to an understanding of the working environment. Previous research has shown that women's OSH has to be improved. Research from the European Commission illustrates that, even by 1995, women accounted for close to or above half of all cases of work-associated ill health, including allergies (45 %), infectious illnesses (61 %), neurological complaints (55 %) and hepatic and dermatological complaints (48 %). The situation has not improved. Further, for 'women's jobs', such as those in the health and social services, retail and hospitality sectors, there is a stagnation in accident rates in some countries; women are more likely to be bullied and harassed, subjected to sexual harassment and have to use poorly fitting personal protective equipment that is not usually sized for a smaller frame.

The aims of this review are to:

- Provide a statistical overview of the trends in employment and integration of women in the labour market, and explore how they impact on their occupational safety and health.
- Identify and highlight the main issues and trends in employment characteristics, working conditions, hazard exposure and work-related accidents and health problems for women at work and explore more in-depth selected issues not addressed thoroughly before, such as combined exposures, informal work and the rehabilitation of women into work.
- Identify emerging issues for OSH research and the prevention of occupational diseases and accidents affecting women at work.

This focus on OSH benefits not only women but also men who work, and thus reinforces the considerable potential to be gained by improved workplaces.

A summary of the findings and trends and a more detailed list of suggestions is included in every chapter of this report and in the conclusions.

([1]) This sentence has been corrected as compared to the Dec 20, 2013 version. 30 Jan 2014.

Method

The literature review involved accessing and interpreting information and data from structured databases and peer-reviewed journals, including EU statistical databases, peer-reviewed research and reports. Moreover, the use of 'grey' literature ([2]) facilitated the assessment of reports and research output, which, while not covered during regular searches of electronic databases, may allow a broader, more comprehensive assessment of the various topics under discussion. Data from outside the EU were included to supplement the information, particularly for topics where few data are available from the EU.

The review also draws on EU-OSHA research conducted since 2004 that is relevant to women at work. Information on transport, education, waste management, healthcare, cleaners and other service workers has been integrated here, as well as research findings on vulnerable groups such as young and migrant workers and the results of the European Risk Observatory's studies on combined and emerging risks.

The preliminary results were also discussed at a workshop in Brussels on 9 December 2010, which involved stakeholders from 10 Member States. The outcomes of the workshop are available from: http://osha.europa.eu/en/seminars/seminar-on-women-at-work-raising-the-profile-of-women-and-occupational-safety-and-health-osh

Key conclusions of previous EU-OSHA research

- Continuous efforts are needed to improve the working conditions of both women and men.
- Gender differences in employment conditions have a major impact on gender differences in work-related health outcomes. Research and interventions must take account of the real jobs that men and women do and differences in exposure and working conditions.
- We can improve research and monitoring by systematically including the gender dimension in data collection, adjusting for hours worked (as women generally work fewer hours than men) and basing exposure assessment on the real work carried out. Epidemiological methods should be assessed for any gender bias. Indicators in monitoring systems, such as national accident reporting and surveys, should effectively cover occupational risks to women.
- Work-related risks to women's safety and health have been underestimated and neglected compared to men's, regarding both research and prevention. This imbalance should be addressed in research, awareness-raising and prevention activities.
- Taking a gender-neutral approach in policy and legislation has contributed to less attention and fewer resources being directed towards work-related risks to women and their prevention. European safety and health directives do not cover (predominantly female) domestic workers. Women working informally, for example wives or partners of men in family farming businesses, may not always be covered by legislation. Gender impact assessments should be carried out on existing and future OSH directives, standard setting and compensation arrangements.
- Based on current knowledge of prevention and mainstreaming gender into OSH, existing directives could be implemented in a more gender-sensitive way, despite the need for gender impact assessments and attention to gaps in knowledge.
- Gender-sensitive interventions should take a participatory approach, involving the workers concerned, and based on an examination of actual work situations.
- Improving women's occupational safety and health cannot be viewed separately from wider discrimination issues at work and in society. Employment equality actions should include OSH.
- Activities to mainstream occupational safety and health into other policy areas, such as public health or corporate social responsibility initiatives, should include a gender element.
- Women are under-represented in the decision-making concerning occupational health and safety at all levels. They should be more directly involved and women's views, experiences, knowledge and skills should be reflected in formulating and implementing OSH strategies.

([2]) Grey literature is authoritative primary scientific report literature in the public domain, often produced in-house for government research laboratories, university departments or large research organisations, yet often not included by major bibliographical commercial database producers.

- There are successful examples of including or targeting gender in research approaches, interventions, consultation and decision-making, tools and actions. Existing experiences and resources should be shared.
- While the general trends in women's working conditions and situation are similar across the Member States and candidate countries, there are also country differences within these general trends. Individual countries should examine their particular circumstances regarding gender and OSH, in order to plan appropriate actions.
- Taking a holistic approach to OSH, including the work–life interface, broader issues in work organisation and employment would improve occupational risk prevention, benefiting both women and men.
- Women are not a homogeneous group and not all women work in traditionally 'female' jobs. The same applies to men. A holistic approach needs to take account of diversity. Actions to improve work–life balance must take account of both women's and men's working schedules and be designed to be attractive to both.

What this report adds to the knowledge

- Women continue to be active in the workforce, as shown by their increasing employment rates. However, workers with non-standard employment contracts, such as part-time employment or non-permanent contracts, accounted for most of the recent rises in employment figures, and there has also been an increase in multiple employment. The financial downturn may have an impact on employment prospectives, particularly of younger women.
- Occupational segregation, or the concentration of female activity in a few sectors, seems to be increasing rather than declining over time. The move to service sectors particularly affects women, who work in the growing sectors of healthcare, education, public administration, Horeca (hotel, restaurant and catering) and retail, as well as in financial and other customer services. Consequently, if it is to be effective, OSH policy should enhance its activities in these sectors.
- However, current perceptions of vertical and horizontal segregation should be revised: when data are assessed at the micro level, they show that jobs done by men may be more segregated than those done by women. According to the latest European figures (EC, 2010a), men are now more likely to work in male-dominated jobs than are women in female-dominated ones, meaning that women, despite being concentrated in some professions, are more likely to work across occupations and jobs than men. Interestingly, according to the *European Working Conditions Survey* (EWCS), only the occupational categories 'unskilled workers' and 'professionals' (with female workers accounting for the majority of the life science, health and teaching professions) are gender balanced, with a recent increase in employment in elementary occupations. This may have an impact on labour inspection policy as, increasingly, both genders should be considered when conducting inspections, allocating resources and designing OSH strategies.
- Informal work is increasing among women, which raises OSH concerns, as these types of jobs are more likely to be unstable, unprotected and precarious.
- The jobs that women do are strongly dependent on their age and origin, rather than on their educational attainment. While younger women work preferentially in hospitality and retail, older women tend to work in healthcare and education. In sectors where an increasing proportion of workers are ageing, such as healthcare, specific policies should be developed to address the health and safety risks of these workers and enhance their work ability and well-being.
- The jobs women do and the choices they make still depend largely on their family commitments. This is also true for older women. Inversely, the practices impact on the choices they are given. As this report demonstrates, many women are involuntarily in temporary jobs, on multiple and short-term contracts, and this has a high impact on their OSH.
- Women are more likely than men to suffer from multiple discrimination at the workplace. This may relate to gender, age, ethnic background, disability and sexual orientation, while migrant women also face discrimination based on their origin or class. Some particularly vulnerable groups are identified in this report: young women, women with care obligations in countries where resources are limited, migrant women engaging in informal work, such as cleaning and home care, women in multiple jobs and very young mothers. The situation of older women is also very variable depending on the country.

- At first glance, male workers often seem to be more exposed to specific risks than their female counterparts. However, a more in-depth look at the data reveals that women may have a higher level of exposure and are particularly affected by multiple exposures, as could be demonstrated for the Horeca, healthcare and cleaning sectors, as well as in the traditional sectors of agriculture, manufacturing and transport.
- There is now more information about the types of accidents and health problems that women face at work, which are increasingly recognised to be directly linked to the differences in the type of work they do. Women are more exposed to slips, trips and falls and accidents linked to violence. The differences in occupational accidents may warrant different monitoring and action; for example, the different modes of travelling and different family obligations may have an impact on their commuting accidents pattern, and this should be explored. The concept of a commuting accident may have to be revised to, for example, take into account accidents occurring when taking children to school before going to work, which, according to some studies, remains largely a female duty.
- Women are increasingly affected by musculoskeletal disorders (MSDs) and stress. This puts into question the misconception that women's work is less physically and mentally demanding. The combination of work organisational and physical risks, the links between women's paid and unpaid work, including combined risk exposures and less free time, and the difficulties in finding a stable job, and their impact on the health and safety of women should be further explored.
- Violence and harassment are a particular issue in service sectors, and discrimination at work is increasing. Additionally, new forms of harassment, such as cyber-harassment, are an emerging issue in some sectors, for example in education. Reporting and support procedures are still lacking, and female workers in personal services and working at clients' premises are particularly vulnerable. Additionally, reports on violence vary considerably between Member States; this may be linked to a lack of awareness.
- According to EU figures, atypical working hours are increasing in the EU, while at the same time the gender gap seems to be closing slightly. This may affect women more because of their family and household responsibilities, as described above. If working time patterns are more irregular, this may diminish their ability to reconcile work and private life. As an example, in the restaurant sector, 28.6 % of workers report long working days, only half (50.5 %) have fixed starting and finishing times, almost a third work shifts (29.9 %) and the mean working hours are among the highest of any sector. Accordingly, fewer workers in this sector report caring for children, which is also consistent with the younger age of workers in hospitality. The conditions may have an influence on their reproductive health as well as on their long-term health status and ability to work.
- There has been hardly any change in the overall gender pay gap since 2003, and women continue to receive lower wages (on average 16 % less than men), which is also the case in jobs with a majority of female workers. This confirms previous EU-OSHA-reported findings. A true assessment of the risks women incur at work and a modified perception of the values attached to women's work may indirectly help narrow this gap, if the contribution of women's work is valued as much as men's.
- Recently, rising female employment in technical occupations and among professionals, with higher employment rates in the accession countries, may have been compensated in regard to overall figures by a rise in elementary, low-paid professions. Both trends should be assessed separately for their impact on the OSH of women.
- This review shows that, although the number of women managers has increased slightly since 2003, women remain under-represented in management positions and in the decision-making processes within companies. Women still have difficulties in attaining senior positions within organisations because of the 'glass ceiling effect'. In addition, women still mainly manage women. This also limits their opportunities to influence and shape their working conditions and actively contribute to workplace risk prevention at a decision-making level.
- Also, there is concrete evidence that limited career advancement prospects of women may have a direct impact on their health and safety at work, as the combination of doing the same job for a prolonged time and the characteristics of many female jobs, being repetitive and monotonous, may contribute to health and safety risks, such as stress and MSDs. On the other hand, a North American study has demonstrated that the greater involvement of women in management in agricultural enterprises as a result of structural changes may result in higher exposures and

health risks to them, because they are handling pesticides and performing tasks previously done by men.

- Women are less often unionised and have difficulties in electing representatives. They also have less access to OSH preventive services. Consequently, they may be overlooked in workplace risk assessments and when workers are consulted about their working conditions and the best OSH prevention measures to be taken at their workplaces, because they often work part time and in temporary jobs.
- The OSH situation of women in major employment sectors has been further investigated by EU-OSHA since 2004 and reinforces the recommendation for integrated efforts in all policy fields to mainstream OSH and equality into policy action. To the previously mentioned fields of social policy and welfare, public health, employment and equality, and education and training should be added transport and energy policies, technology development initiatives, green jobs, waste management and other policies on environmental protection, among others.

Differences between Member States

There are major differences between the EU Member States with regard to the employment situation of women and the jobs they do, and how this impacts on their health and safety.

- In the eastern Member States and the Baltic countries, women are more equally spread across occupations (more technical jobs and among professionals), the rise in employment has benefited them more, as they moved into better jobs, but the use of part-time contracts is very limited and their work–life balance is poor.
- In contrast to the EU-15, in the newer Member States, up to 2007, although men and women benefited equally from employment growth, newly created positions for women were focused on well-paid jobs.
  - According to the EWCS 2010, across most of the eastern European and the Baltic countries women account for more than 30 % of managers on average. For example, in Estonia 41 % of managers are women. The highest proportions are in highly skilled clerical positions.
  - Among the 10 newer Member States that were the first to add to the EU-15, in 2005, in all age groups, more than 50 % of women worked under permanent contracts. Far more women than in the EU-15 were permanently employed for more than 35 hours per week. In 2011, however, the proportion of female workers on temporary contracts was highest in Spain (27 %), but was also relatively high in Cyprus, Poland, Portugal, the Netherlands and Slovenia, while it was lower but increasing in some of the other eastern European countries, and lowest in the Baltic countries. Moreover, in Cyprus, Sweden and Finland, a higher proportion of women than of men were on fixed-term contracts.
  - In the southern European countries, a high proportion of older women are still outside the labour market, and a lack of accommodation of work–life balance requirements (working time arrangements, child and elderly care facilities) puts a high strain on working women.
  - In some highly developed countries, such as Austria and Germany, the traditional conceptions of motherhood and care responsibilities mean that childcare and other facilities are also lacking, and newly created female jobs are mostly part time and precarious, and concentrated in some sectors and activities. This has a direct impact on the employment choices and the health and safety of the female workers.
  - Some of the eastern and Baltic countries have seen a fall in employment among some groups of female workers.
  - The situation of migrant women and women in informal jobs is also very variable across countries and depends on the active policies in place to address informal work, for example in personal services.

Some countries have put in place policies to address some of these issues and to mainstream gender equality and gender-sensitive action into OSH and related fields, and have achieved good results. Some initiatives are described in this report, and EU-OSHA is currently conducting an in-depth review of a selection of good practice examples.

Trends in female employment and how they impact on OSH

The dramatic increase in the labour force participation rates of women from 1995 to 2010 was accompanied by many social, economic and demographic changes in the status of women. Some of these changes and their impact are outlined below.

The gender aspect of work remains of interest within the EU. This is displayed through the Lisbon Strategy, which proposed the achievement of a female employment rate of over 60 % by 2010. This review shows that, across the EU, this was close to being achieved, as in 2008 the female employment rate was 59.1 %. The growth in employment was almost three times as high for women than men over this time. Thus, the gap between male and female employment rates narrowed. But employment gains were spread very unevenly across age groups: 39.1 % were aged 25 to 54 and 19 % were 55 to 64 years old. Young women aged 15 to 24 years accounted for only 0.3 % and women older than 65 accounted for 0.6 %.

However, although the reported trends are positive, it should be kept in mind that the economic crisis hit Europe in 2008 and forced the EU into recession. The employment rate for women, which increased continuously from 53.7 % in 2002 to 59.1 % in 2008, dropped for the first time in 2009, to 58.6 %. In 2011, 64.3 % (down from 65.9 % in 2008) of the EU's working-age population was employed (56.7 % of women aged 15–64 (down from a high of 58.9 % in 2008) and 70.1 % of men aged 15–64 (down from 72.8 % in 2008)).

By 2010, 16 out of 27 countries achieved the targeted female employment rate of over 60 %, down from 20 out of 27 in 2008, as a result of the economic crisis. Job losses among women occurred in retail salespersons, blue-collar workers in textiles/clothing manufacture and in agriculture.

Employment rates of older women vary considerably between the Member States. In 2011, the highest employment rate for older women was in northern European countries, at more than 55 %, and the lowest was in southern European countries, where it was below 35 % in all cases.

Moreover, overall unemployment rates for women and men have converged. However, this measure does not necessarily cover all aspects of the changing economic conditions for women, as female workers are more likely than men to leave the labour market entirely, especially young women, who may experience difficulties in re-entering the labour market.

Very young mothers with small children are a particularly vulnerable group with regard to their entry into the labour market: their activity rates are much lower than those of mothers over 25 years old. Specific measures are needed to assess the employment and potential working conditions of these very young mothers and address some of their specific needs in OSH policy and prevention, and related policies, because they belong to a group at particular risk of poverty. Their vulnerability and difficulty in accessing the labour market may make them more prone to accept worse working conditions.

Employment rates of older women vary considerably between the Member States. In 2011, the highest employment rate for older women was in northern European countries at more than 55 %, and the lowest was in southern European countries, with all below 35 %.

The data also highlight that, while women occupied 59 % of the newly created jobs, these gains were concentrated in the lowest pay group and in the second highest pay group out of five occupational categories. However, as mentioned, in the newer Member States the situation is different: men and women benefited equally from employment growth in terms of newly created positions, but women's employment growth was focused on well-paid jobs.

Within these newly created jobs, women are more likely to work in part-time roles. Part-time employment continues to be important for women, as it remains one option of dealing with child- and eldercare duties. In 2008, although equal proportions of men and women had full-time jobs, 73 % of those filling part-time jobs were women. Almost one-third (32.1 %) of women employed in the EU-27 worked on a part-time basis in 2011, a much higher proportion than the corresponding figure for men (9 %). Part-time employment is most common among older workers (aged 55+) and young workers

(15–24 years). The reasons underlying the U-shaped curve of part-time employment are different at the different ends of the age spectrum. In the case of older workers, part-time employment is a way of remaining in the labour market if, for example, health problems do not allow full-time employment. Looking after grandchildren or incapacitated relatives is another reason often stated by older women for preferring part-time jobs. A high proportion of female part-timers are underemployed, meaning that they work part-time involuntarily. Part-time work has been used as a measure to avoid unemployment in times of crisis, but in the EU-27 in 2010 more than two-thirds of underemployed part-timers were women (68.4 %), that is 5.8 million women as compared with 2.7 million men.

There is a distinct pattern to be observed in the eastern countries, where part-time employment is uncommon. With regard to sectors and occupations, part-time work prevails in the more service-driven sectors (e.g. health, education and other services) and occupations that are female dominated (e.g. healthcare, service and sales and unskilled jobs). There has been a notable increase in part-time work in elementary occupations for men, as well as for women.

Courtesy of Austrian Labour Inspection

Very young mothers with small children are a particularly vulnerable group. Specific measures are needed to assess their OSH situation and develop targeted policies and prevention.

It seems that female part-time workers invest their free time in non-paid domestic work. When taking into account the composite working hour indicators (i.e. the sum of the hours worked in the main job and in secondary jobs, plus the time spent on commuting and on household work) the research finds that women in employment systematically work longer hours than men. This gives a clear illustration of the ‘double role’ increasingly played by women in both the labour market and the household. Interestingly, when considering composite working hours, on average, women in part-time jobs work more hours than men in full-time jobs. There is a need for greater recognition of the links between women’s paid and unpaid work, and their effect on women’s health, including combined risk exposures and less spare time.

Part-time work may also hide multiple employment. A 2005 study in France showed that over a million workers, almost 5 % of the working population, were in multiple employment. For women, these jobs mostly involved childcare and elderly care and domestic work, where women’s OSH is difficult to follow and protection difficult to implement. A German study demonstrated that 640,000 fewer women worked full-time in 2009 than 10 years earlier, replaced by over a million temporary engagements and 900,000 ‘mini-jobs’. This was highlighted as an issue of concern by the OSH authorities.

Temporary employment is increasing for women and men in most of the EU-27 countries. However, this is distributed more evenly across both genders than is part-time employment. However, fewer workers have employment contracts; as few as 25 % of workers in agriculture and less than one-quarter of unskilled workers are on contracts. The number of jobs in agriculture has declined for both

women and men. However, more women than men work involuntarily in the agriculture sector in fixed-term jobs. Also, in 2005, according to the European Labour Force Survey, over 30 % of women employed involuntarily in fixed-term jobs were in education and health. Some 43 % of women and 48 % of men employed in fixed-term jobs involuntarily held contracts of less than 6 months.

The contractual arrangements under which women are working contribute considerably to the gender pay gap, as well as reducing their chances of moving into management jobs. And the gender pay gap grows with age: in 2011, while the difference was up to 7 % until the age of 24 in the EU Member States, it rose to 35–45 % for women aged over 55 in some countries. A recent US study has demonstrated that women and younger workers aged between 22 and 44 years in particular could be at risk of hypertension when working for low wages.

The use of fixed-term contracts among workers is relatively common in about a third of EU Member States. The considerable range in the propensity to use limited-duration contracts between Member States may, at least to some degree, reflect national practices, the supply and demand of labour and the ease with which employers can hire or fire. In 2011, the proportion of female workers on such contracts was highest in Spain (27 %), but was also relatively high in Cyprus, Poland, Portugal, the Netherlands, Slovenia, Finland and Sweden, while it was lower but increasing in some of the other eastern European countries, and lowest in the Baltic countries.

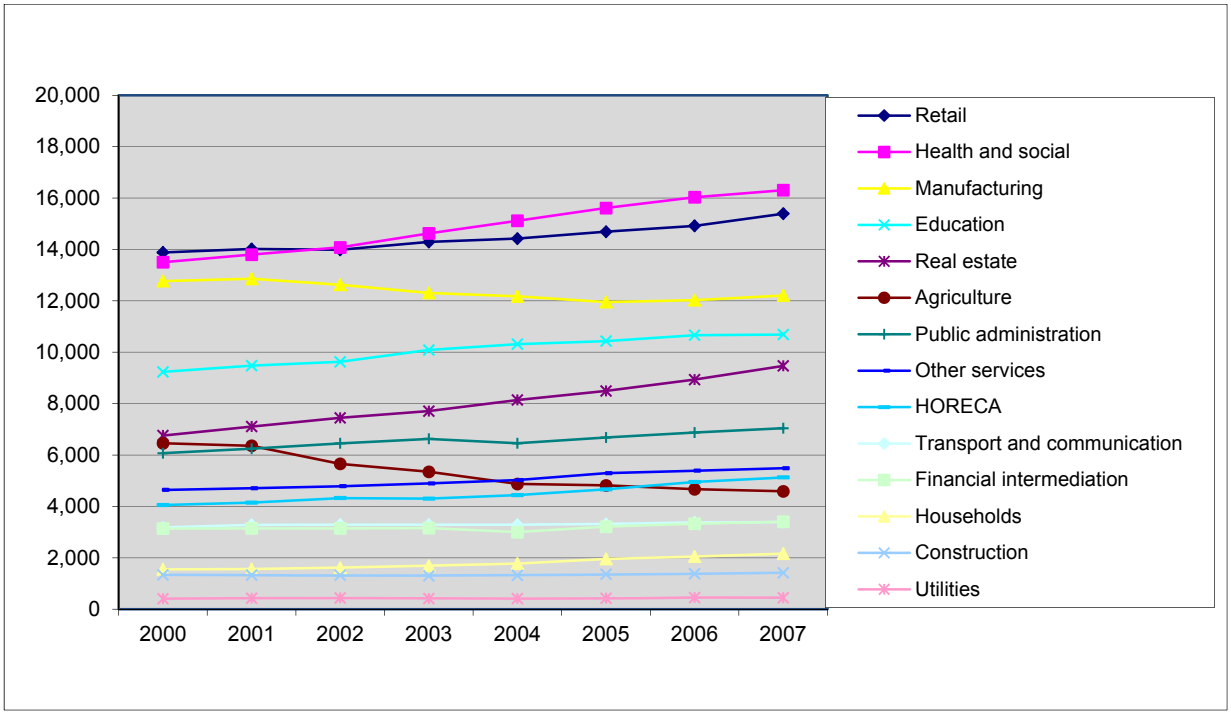
Fixed-term contracts are more frequent among female than male workers. This is especially the case in Cyprus, where in 2011 20.7 % of women were on fixed-term contracts, compared with only 7 % of men. The proportion of women on fixed-term contracts, relative to the proportion of men on such contracts, was also high in Sweden and Finland.

The contractual arrangements under which women are working contribute considerably to the gender pay gap, as well as reducing their chances of moving into management jobs. The gender pay gap grows with age: in 2011, the difference among male and female workers under the age of 24 was up to 7 % in EU Member States (Eurostat, 2013), but the gap rose to 35–45 % in those aged over 55 in some countries. A recent US study has demonstrated that women and younger workers aged between 22 and 44 years could be particularly at risk of hypertension when working for low wages (Leigh et al., 2012).

Occupational segregation

Overall, the concentration of female activity in a few sectors seems to be increasing rather than falling. There has not been much positive improvement in the aggregate levels of segregation in sectors and occupations, although women continue to take up traditionally ‘male’ jobs. The most important and steadily increasing sector for women’s employment is the health and social sector (Figure 1), which is ranked third in the general population (Figure 2). The retail sector is the second most important employment sector, for both women and the general population. Education is ranked third in all sectors of employment among women and has overtaken manufacturing during the financial crisis. Public administration ranks fifth. Female employment is declining in the previously predominant sectors of agriculture and manufacturing, although the proportion of female workers is increasing in agriculture.

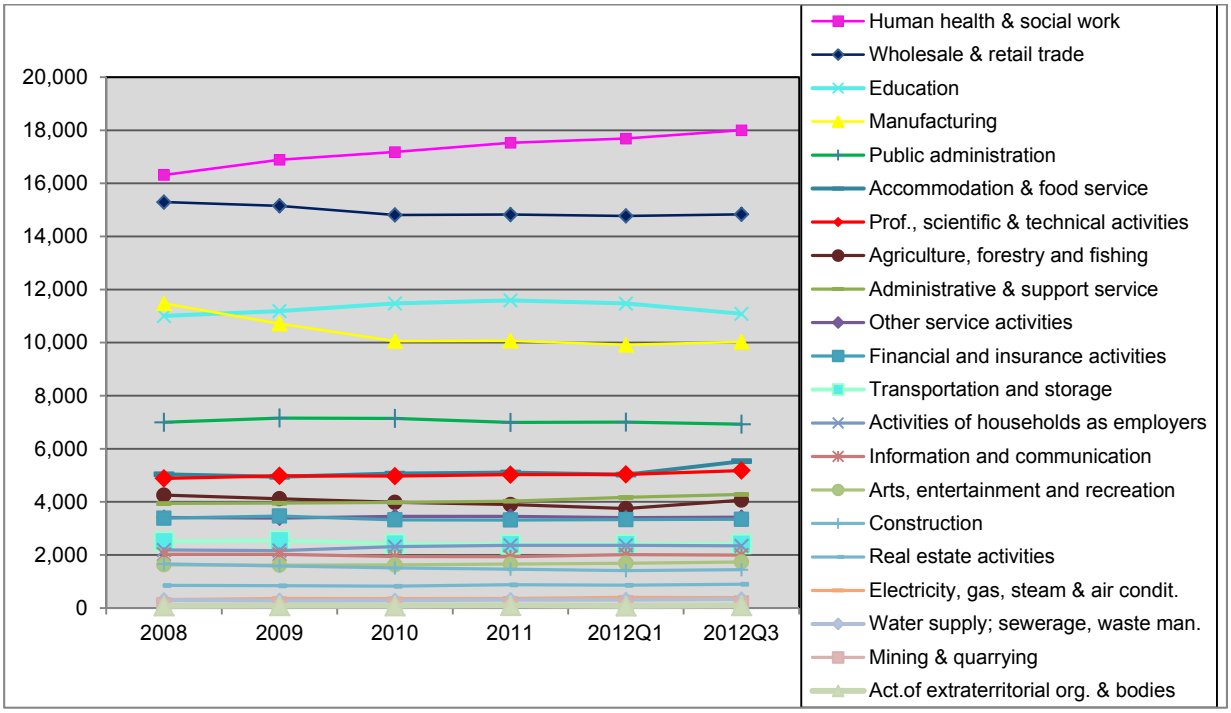
Figure 1: Main employment sectors of women, EU-27, 2000–2007. Women employed, aged 15 years and over (thousands)



Source: Eurostat, EU-LFS (2010)

In 2008, there was a break in the series because of a change to the coding of industrial sectors (from NACE Rev. 1.1. to NACE Rev. 2), which now better reflects service professions. Therefore, data are presented here for the period up to and after 2008.

Figure 2: Main employment sectors of women, EU-27, 2008–2012, NACE Rev. 2. Women employed, 15 years and over (thousands)

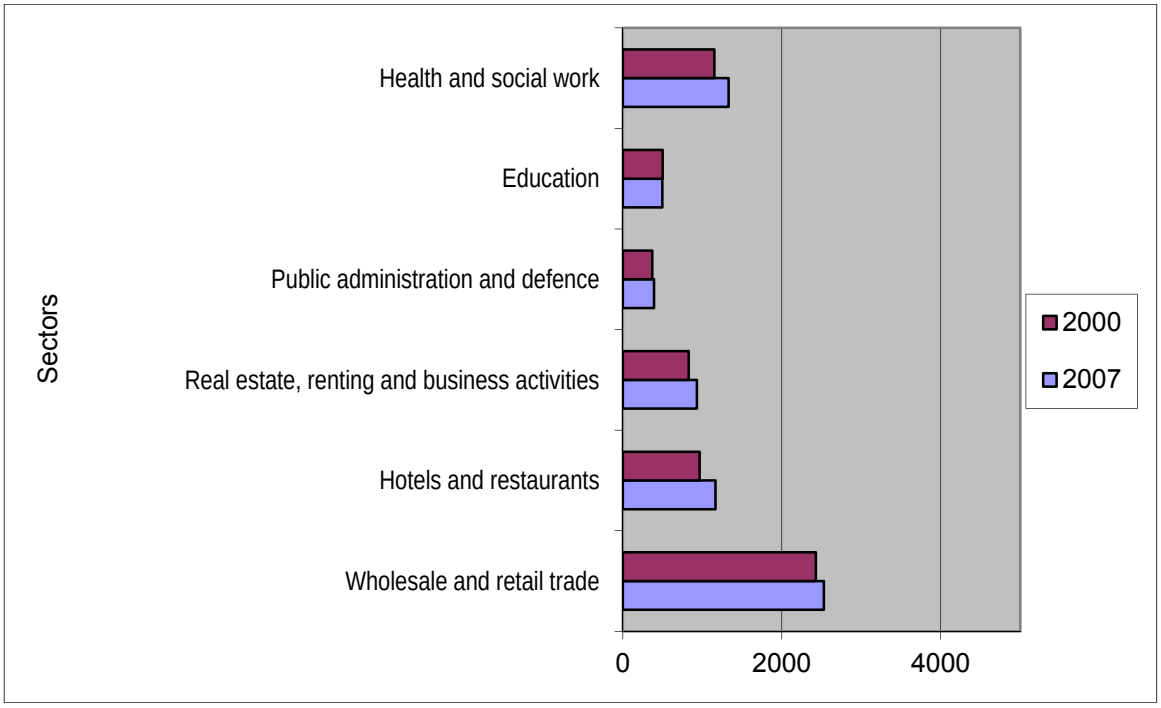


Source: Eurostat, EU-LFS (2013)

There are very distinct patterns of employment according to the different age groups: while younger women work more in retail and Horeca, older women work more in education and healthcare.

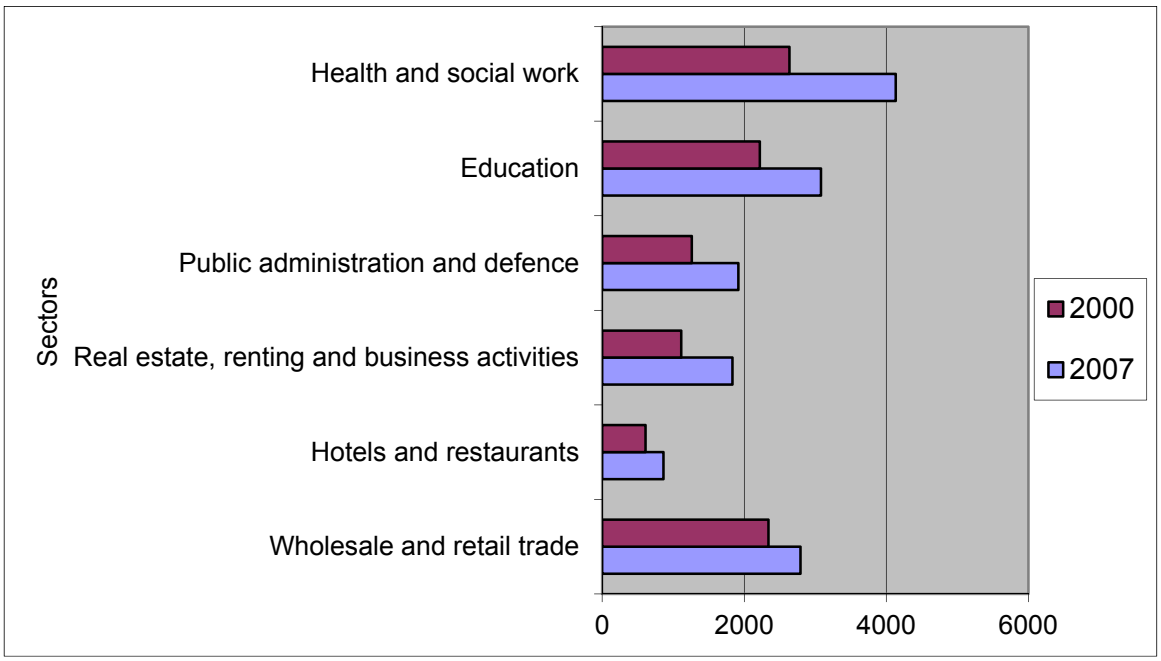
Figures 3 and 4 display figures up to 2007. The change in the industrial sector coding is expected to better reflect the move from industry to services and provide more detail on the trends in female employment in the future.

Figure 3: Female employment in EU-27 by economic sector, ages 15–24, in 2000 and 2007



Source: Eurostat, EU-LFS

Figure 4: Female employment in EU-27 by economic sector, ages 50–64, in 2000 and 2007



Source: Eurostat, EU-LFS

Women's move into traditional male jobs has also been slowly increasing. The most recent edition of the EWCS demonstrates that there are more women working in male-dominated jobs than there are men working in traditionally female-dominated sectors. However, research from the USA shows that 'new' occupations in which women choose to work may not necessarily have the required preventions in place to reduce the risks that women face at the workplace. One study of female long-haul truckers showed that fewer than one-third of companies provided sexual harassment or violence prevention training or had a policy for violence protection. This is confirmed by recent EU-OSHA research in the transport sector (EU-OSHA, 2011a), which recommended that specific prevention policies should be introduced and risk assessment and prevention should take into account both the increasing number of women working in the transport sector and the increasing number of female service occupations found in this sector (e.g. caterers on trains, sports trainers on ships, cleaners).

While younger women are more likely to work in the retail and Horeca sectors, older women are more likely to work in education and healthcare.

Further, women moving into traditional male professions such as construction and civil engineering may start to assume the work habits of their male colleagues (long hours, presenteeism, visibility), which will tend to maintain the status quo and will not help to improve work-related outcomes such as job strain.

The choices women make professionally are also reflected in their education: many more women than men are educated to a tertiary (university) level in most European countries. However, there is still a marked difference between the fields of education in which women and men successfully complete (the first stage of) tertiary-level programmes. While women make up a large majority of those graduating in law, business, social sciences, health and welfare, teacher training and education programmes, the reverse is the case in engineering, manufacturing and construction. Overall, this may perpetuate the present segregation and should be taken into account when designing policies and allocating resources.

Informal work

Another source of work for women are those jobs described as informal work. Informal work could be considered as a growing 'sector' as it has an increasing rate of employment, with most of the jobs filled by women. However, informal work is hazardous for women as it makes them vulnerable to harassment and violence and exposes them to various physical risks and unfavourable working time arrangements. Precise data on employment in the informal economy are difficult to come by. As demonstrated by various studies discussed in this review, this employment is difficult to measure because it is highly complex; in addition, people involved in these activities try not to be identifiable.

Another problem is that countries define informal employment differently; as a result, the data collected reflect only a partial picture of the scope of activity that is taking place in the informal economy. For example, many of the data collected at the national level refer only to those workers whose main job or only job is in the informal economy, leaving out those who have secondary jobs in the informal economy (a number thought to be quite large in some countries). Many types of informal work and sectors are 'engendered' in the same way as they are in the 'visible', formal side of the labour market. The main features of both male and female informal workers are their insecurity and vulnerability, as well as their higher poverty risk compared with 'formal' workers.

Most people working informally, and especially women, are deprived of secure work, benefits, protection, representation or voice. A special Eurobarometer (Riedmann and Fischer, 2007) represents the first attempt to measure undeclared work on an EU-wide basis and showed that one-third to one-half of all suppliers of undeclared work are women. Younger people, the unemployed, the self-employed and students are over-represented in informal work. Household services are the most significant undeclared activity, including cleaning services, care for children and the elderly. Another area is the Horeca industry.

Many women in rural areas are engaged in occupations that are comparable to a professional activity but are not recognised, protected or paid as such. Further, women in rural areas are more affected by hidden unemployment than men owing to traditional role models and the poor provision of infrastructure, such as childcare facilities, in many areas. Some specific risks faced by these women include the lack of basic rights such as holidays and insurance, a lack of information about risks and preventive resources and a lack of workers' representatives. Evening, night and weekend work are quite common in Horeca, as are irregular shifts. These patterns (i.e. working in the evening, at night and at weekends) often lead to increased tiredness and problems with combining work and non-working life, including child- and homecare duties and parental care duties, which are more likely to affect women.

Courtesy of the Belgian public service Employment, Labour and Social Dialogue.

Literature sources directly addressing OSH in the context of undeclared work were not found, for either men or women. Data are often dispersed and presented in non-official reports. Nevertheless, some information about labour/working conditions is available in studies at both EU and national level, often related to sectors. As demonstrated in previous EU-OSHA research (EU-OSHA, 2007, 2008), there are no measurements of health status of undeclared workers (such as self-estimated health, absenteeism, work accidents, mental ill health) and they are likely to be under-reported in occupational statistics.

Knowledge about OSH in sectors typically viewed as having a high percentage of female workers and activities where informal work is more prevalent is a good starting point in determining the risks and health problems faced by women who work undeclared. Clients of such services should be included in the target groups for OSH information and campaigning for prevention in these sectors, as should the organisers of such services.

The particular challenge for OSH prevention regarding undeclared work remains the inaccessibility of the workers and their workplaces for labour inspections. The particular combination of uncontrolled workplace exposures, precarious labour relations, fear of losing one's job, lack of knowledge about rights and lack of representation make it difficult to reach these workers. Knowledge about OSH in sectors typically viewed as having a high percentage of female workers and activities where informal work is more prevalent is a good starting point in determining the risks and health problems faced by women who work undeclared.

Whereas enforcement in agriculture and Horeca may have become easier, traditional approaches to implementation of workplace legislation fall short of measures in some areas, such as home services. A recent Eurofound report (Eurofound, 2005) provides an up-to-date evaluation of current different approaches and measures used in the 27 EU Member States to tackle undeclared work. Some policy measures are applicable to typical female activities, mainly household services. Service vouchers to buy services at a lower price, or widespread childcare facilities to eliminate this sector from the undeclared economy, can be seen as an example. In Slovenia, the above-mentioned activities and arts and crafts work and similar activities were identified as 'personal supplementary work' in a regulation that established a procedure leading to notification. This is the first step towards the implementation of legislation, including OSH regulations. These measures could be complemented by OSH measures, as has already been proposed in some Member States, for example in home care, a sector that has increased in size with the increasing age of the European population, for which basic guidance can be provided on protecting workers who provide care services in private homes. Clients of such services should be included in the target groups for OSH information and campaigning for prevention in these sectors, as should the organisers of such services.

Female migrant workers

Studies have identified language problems, poor communication and on-the job training, hours of work and fatigue as possible factors for higher workplace injury rates for ethnic minorities. Family obligations have a significantly higher impact on activity and employment of female immigrants than for female nationals. Migrant women are not a homogeneous group. Second-generation migrant women have better educational levels and better integration into the labour market than those of the first generation and even nationals in some Member States.

One growing trend affecting the OSH of female workers is the rising migration rate of women, which is close to that of men. Migrant women workers may face double or triple discrimination, especially when they work 'informally'. Other groups with a high proportion of informal workers, include unemployed people, the self-employed, seasonal workers, students and children, many of whom are female. An increasing trend includes those women who engage in domestic work or work as cleaners. Women in these sectors may not speak the language of their employer, may not receive training or OSH information, may have to work long hours and may be asked to do tasks without the correct equipment. They may also be subjected to harassment, violence, victimisation, discrimination and low pay.

Women migrant workers in Europe tend to work to a greater extent in areas that are open to them, such as the social work and household services sectors, with these offering few chances to leave or obtain promotion. They tend to get jobs in workplaces that have little culture of safety and health training. Pregnant immigrant workers are a particularly vulnerable group, and workplaces are rarely adapted to protect them from health and safety risks.

Studies have identified language problems, poor communication and on-the job training, hours of work and fatigue as possible factors for higher workplace injury rates for ethnic minorities. Accidents and lost-time injury were also associated with length of time at work, ethnicity and having had near-miss injury events. Immigrant workers are rarely covered by official statistics or surveys. Therefore, there is a lack of data on the risks to which they are exposed and the health problems they incur. This is even more of an issue for service professions, which tend to be excluded from the data because of the temporary and precarious character of the contracts.

Family obligations have a significantly higher impact on activity and employment of female immigrants than for female nationals. This reflects cultural norms, but is also highly influenced by restrictions in labour market access for female workers migrating for family reasons.

Migrant women are not a homogeneous group. Second-generation migrant women have better educational levels and better integration into the labour market than those of the first generation and even nationals in some Member States. The success factors behind these positive trends should be analysed and shared among Member States to improve the situation for young female immigrants as well as young women in general.

Accidents at work

The fact that men are more likely to experience accidents at work, because of their involvement in more 'high accident risk' sectors, has not changed, but, overall, there has been a decrease in the rate of accidents. According to a recent EU study (Eurostat, 2009, 2010), when women do experience accidents at work it is most likely when they work in the 'agriculture, hunting and forestry', 'hotels and restaurants' and 'health and social work' sectors. Unlike the accident rates, the rates for work-related health problems are similar in both genders. Female workers with work-related health problems most often report MSDs (60 %), of which 16 % also report symptoms of stress, depression and anxiety.

There is another difference between the genders: accident levels among men seem to taper off with age, while there is almost no influence of age on the percentage of female workers who suffered an accident.

Accident levels among men seem to taper off with age, while there is almost no influence of age on the percentage of female workers who suffered an accident. This difference should be further analysed.

There is also a methodological issue to be raised. A 2002 study (Dupré, Eurostat 2002) found that the difference between women and men was smaller when incidence rates were calculated on a full-time equivalent basis, because women worked part time more often than men and were therefore exposed to the risk of accidents for shorter times. If the incidence rates were also standardised for the different occupations in which women and men work, the incidence rates were almost equal in Denmark, Ireland and United Kingdom. Unfortunately, these standardised data are not available from Eurostat for other years.

A 2002 Eurostat study found that the difference in accident rates between women and men was smaller when they were calculated on a full-time equivalent basis, because women worked part time more often than men and were therefore exposed to the risk of accidents for shorter times. If they were also standardised for the different occupations, the incidence rates were almost equal.

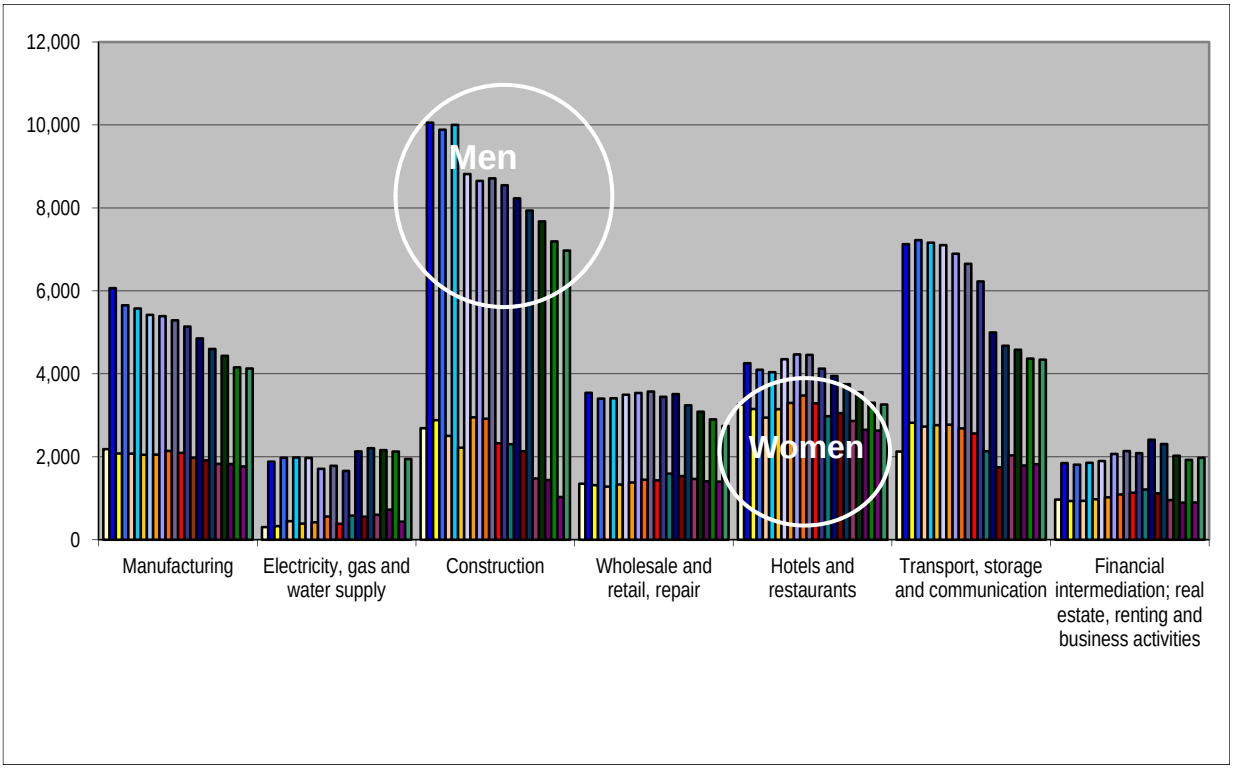
There is more information now than before about the types of accidents and health problems women are exposed to at work, which are more recognised as directly linked to the differences in the type of work they do. Women are more exposed than men to slips, trips and falls and to accidents linked to violence. In an exploratory Eurostat study looking at the causes and circumstances of accidents, the most frequent types of deviation in women were 'slipping, stumbling and falling', causing 29 % of the severe accidents in 2005, and 'body movement under or with physical stress', causing 21 % of severe accidents. Women significantly more often suffered accidents involving 'office equipment, personal equipment, sports equipment, weapons and domestic appliances' and 'living organisms and human beings'. This seems to be linked to the occupations and sectors in which they work, and also means that accident prevention needs to be refocused to address the circumstances relevant for these accidents if it is to be effective for female workers.

Some of the characteristics of work that women do, for example work organisational issues such as monotonous and repetitive work leading to fatigue, interruptions (considerably more frequent in female jobs) and lower autonomy, together with less access to training, may also lead to increased accident risk.

Women significantly more often suffer slips, trips and falls and accidents involving 'office equipment, personal equipment, sports equipment, and domestic appliances' and 'living organisms and human beings'. This is linked to the occupations and sectors in which they work.

Economic sectors with the highest incidence rates of accidents for women were 'agriculture, hunting and forestry', 'hotels and restaurants' and 'health and social work' (Figure 5, incidence rates: male workers – blue-green, female workers: red-orange). Owing to the high percentage of women working in services, the highest absolute numbers were found in the 'public administration', 'education', 'health and other services sectors. Eurostat now publishes incidence rates for accidents in public administration, education, health and other services (NACE L-P), with many of these jobs in the public sector. In the past, however, over 45 % of employed women working in these sectors were not covered. In the 'agriculture, hunting and forestry' and 'health and social work' sectors we find both a high accident rate and a high prevalence of work-related health problems.

Figure 5: Standardised incidence rate of accidents at work by economic activity, severity and sex (per 100,000 workers), EU-15, 1995–2006*



Source: Eurostat, ESAW (2008) (*)incidence rates: male workers – blue-green, female workers: red-orange

Eurostat now publishes incidence rates for accidents in public administration, education, health and other services (NACE L-P), with many of these jobs in the public sector. In the past, however, over 45 % of employed women working in these sectors were not covered. In the 'agriculture, hunting and forestry' and 'health and social work' sectors we find both a high accident rate and a high prevalence of work-related health problems.

Commuting accidents and accidents when driving to work

On average, both men and women aged from 20 to 74 spend at least 1 to 1.5 hours per day travelling to and from work. However, the modes of travel differ between the genders. Female workers seem to use private cars less often and seem to spend more time walking than their male counterparts. The different modes of transport, and different family obligations, may have an impact on women's commuting accident patterns, and this should be explored. The concept of a commuting accident may have to be revised to, for example, take into account an accident occurring when taking children to school before going to work, which, according to some studies, remains largely a female duty. A recent review of commuting accidents in Germany (Eurogip, 2012) has demonstrated that rates of non-fatal accidents are particularly high in the health and welfare services, administration and retail and warehousing and that a high percentage of the fatal commuting accidents also happen in these female-dominated sectors.

Photograph by Josu Gracia (EU-OSHA photo competition, 2009)

Exposures, health problems and occupational diseases

The occupational health risks of female workers tend to relate to their exposure to material, physical and ergonomic hazards, as well as intimidation and discrimination at work. These types of exposures are especially high for women who work in agriculture, hotels, restaurants and catering, transport and manufacturing. Women in the manufacturing sector also report high rates of exposure to vibrations, which is a risk not normally attributed to 'female' workplaces. In addition, although initially it may seem that male workers are more exposed to specific risks than their female counterparts, because female workers are segregated largely into fewer sectors and often perform different tasks from men, they may be more exposed in some instances than their male colleagues. According to the fourth EWCS, on average substantially more male (43 %) than female (25 %) workers have to carry or move heavy loads at work. However, the exposure to jobs involving lifting or moving people has a higher prevalence among female workers (11.1 %) than among male workers (5.8 %) and is of course one of the main factors in health- and homecare.

One of the risk factors for which exposure of women remains underassessed is noise at work, which continues to contribute to a high proportion of occupational diseases, mainly recognised for male workers. Generally, women appear to be more exposed to medium levels of noise, with the exception of known high-noise sectors such as textile and food production. Moreover, women are occasionally exposed to sudden and disturbing noise, which can be considerably higher than for male workers. This is particularly the case for the female-dominated education, health, hotel, restaurant and catering and social sectors, as well as for jobs in call centres and other offices. A high proportion of women in these sectors report tinnitus, and a considerable proportion also suffer voice disorders. Interestingly, according to Schneider (EU-OSHA, 2005), the proportion of women reporting that they suffer from noise at work was higher in the newer Member States than in the EU-15. Noise levels may be high in some occupations, such as work in nurseries and primary schools, in emergency wards of hospitals or in school workshops, where they may be above the permissible occupational exposure limits.

Medium- and high-level noise may also lead to circulatory diseases and contribute to work-related stress.

Generally, at first glance, male workers seem to be more exposed to vibration than their female counterparts. However, as female workers are more segregated into fewer sectors and often perform different tasks from men, the data should be extracted by sectors and occupations. When specifically assessed, 30 % of female workers are exposed to vibration in manufacturing. Accordingly, vibration should be regarded as a priority for prevention in women's workplaces in industry. Female workers may also be exposed to high noise levels and ergonomic risks, as well as accidents involving machinery in the relevant sectors, for example agriculture, food production and the textiles industry.

Courtesy of INSHT

Mental health problems — an emerging issue

Within the Labour Force Survey 2007 ad hoc module on accidents at work and work-related health problems, 8.6 % of workers in the EU-27 (excluding France) reported one or more work-related health problem during the 12-month period before the survey. Rates were similar for female and male workers. The prevalence of work-related health problems increased with age for both genders from approximately 3 % in the age group 15–24 years to nearly 12 % in the age group 55–64 years. This is in contrast to the frequency of accidents at work, which remained almost constant in women and declined with age in men. Within the group of female workers with a work-related health problem, 60 % reported MSDs. Stress, depression and anxiety were reported by 16 % of the women and headache and/or eyestrain by 6 %. All other illnesses or complaints were reported by fewer than 5 % of the women.

Across the EU there is an observed trend of increasing absenteeism and early retirement due to mental health problems, particularly in relation to stress and depression. Women are particularly affected by this trend. The Mental Health Foundation (2007) suggests that women are particularly exposed to some of the factors that may increase the relative risk of poor mental health because of the role and status that they typically have in society. Some of the key social factors that may affect women's mental health include:

- More women than men act as the main carer for their children and they may care for other dependent relatives too — intensive caring can affect emotional and physical health, social activities and finances.
- Women often juggle multiple roles — they may be mothers, partners and carers, as well as being employed in paid work and running a household.

- Women are over-represented in low-income, low-status jobs (often part time) and are more likely than men to live in poverty.
- Poverty, working mainly in the home on housework and concerns about personal safety can make women feel particularly isolated.
- The characteristics of their work, lack of career progression, multiple jobs, work intensification and lack of autonomy contribute to higher strain and stress levels.

Client work, violence and harassment

According to the latest European workers' survey, women have a higher psychosocial risk because they work in jobs where there is more direct contact with clients. Women reported slightly higher levels of unwanted sexual attention, threats, humiliating behaviour, sexual harassment and bullying, while men reported higher levels of physical violence at work.

Recent EU-OSHA research on the transport sector had similar findings and illustrates some of the major issues. While workers were increasingly exposed to violence, the possibilities for reporting and tackling violent incidents were limited. Transport workers were often found to be at the forefront of reorganisation and were at the 'front line' communicating organisational changes to the clients. They were therefore exposed to angry reactions and harassment. The report therefore recommended that reporting procedures be implemented and improved, and that the prevention of violent incidents and harassment by customers be included in general OSH management.

It also recommended that workers be offered more support. Regarding female workers, the report found a lack of adaptation of physical and organisational conditions to female workers and recommended urgent implementation of changes. One study referenced in the report found double (racial and gender) discrimination against female public transport staff. Transport jobs with an increasing proportion of female workers were school bus drivers, and workers in public transport, taxi and courier services. Additionally, while often exposed to similar risks, support and administrative female staff were often overlooked. Typical examples are cleaners and office workers in the transport sector, and also hospitality workers on ships or trains.

EU-OSHA research on the transport sector found a lack of adaptation of physical and organisational conditions to female workers and recommended that changes be implemented urgently. Transport jobs with an increasing proportion of female workers were school bus drivers, and workers in public transport, taxi and courier services. Cleaners and office workers in the transport sector, and also hospitality workers on ships or trains, were often overlooked.

In general, the risk of experiencing both threats of violence and actual violence is greatest in the healthcare sector, public administration and in defence, but other occupations are also seeing an increase in violence. There are considerable differences between the various Member States; these differences may be due to under-reporting in some countries and greater awareness in others. One of the occupations at risk is teaching, in which women make up the majority of the profession and at least one-third of the six million teachers in the EU are over the age of 50. The violence in schools could emanate from several sources: pupils, parents of pupils and other teachers. However, this is not a well-researched area and more research needs to be carried out into the causes and consequences, so that better solutions to address violence in schools can be generated. Cyber-harassment, as a relatively new form of bullying, the use of information and communication technologies for repeatedly deliberate and hostile behaviour by an individual or a group, with the intention to harm others, is prevalent among teachers. It may take the form of continuous e-mail sending, threats, making teachers the subject of ridicule in forums or posting false statements. A

survey among national teacher organisations revealed that the most frequently cited cause of cyber-harassment was gender, followed by racial or ethnic origin, sexual orientation, age, disability, religion and belief.

A recent EU-OSHA review on violence and harassment at work (EU-OSHA, 2011b) also provides an in-depth review of data from the different Member States, and EU-OSHA has provided advice on how to organise OSH prevention and examples of good practice in several of its information products. The report presents the prevalence of violence and harassment at work based on international and national statistics, as well as the results of scientific studies on antecedents and consequences of work-related violence. A survey of the Agency's focal point network suggests that there continues to be insufficient awareness and recognition of problems with third-party violence and harassment in many EU Member States, and there is a clear need to promote and disseminate good practice and prevention measures that are sensitive to the national context. Some measures proposed by the EU, International Labour Organization, World Health Organization and national experts are included in this report.

Another gender difference can be found regarding unwanted sexual attention. Sexual harassment is reported three times more often by female than male workers in Europe. The gender difference is even clearer when results are viewed at the country level. Women under 30, and women in white-collar occupations — particularly in management — are particularly at risk of unwanted sexual attention. Moreover, women on fixed-term contracts or temporary agency workers (5 %) report higher levels than those on indefinite contracts (2 %).

Discrimination and harassment often go hand in hand. Interestingly, in 2005, almost 42 % of the females who reported experiencing age discrimination also cited acts of bullying or harassment at the workplace. This proportion can be compared with an overall average incidence of bullying or harassment of about 6 % among female workers. Moreover, almost 23 % of women who experienced age discrimination also reported gender discrimination, compared with about 2 % of female workers overall.

Workers who experience violence or bullying at the workplace have more work-related health problems than those who do not. The potential exposure to occupational violence was found to be associated with a significant increase in the potential risk of both depression and stress-related disorders in both women and men. The relative risk was found to increase incrementally with increasing prevalence of violence and threats. Violence and harassment at work has immediate effects on women, including a lack of motivation, loss of confidence and reduced self-esteem, depression and anger, anxiety and irritability, and may contribute to the development of MSDs. Over time, these symptoms are likely to develop into physical illness, reproductive disorders, cardiovascular diseases and mental disorders, and may culminate in an increased risk of occupational accidents, invalidity and even suicide.

Furthermore, women who work at their clients' premises may be particularly vulnerable to attack, whether physically or psychologically. The scope for adapting their conditions may be limited and they may work in several jobs and for several employers. Policy and prevention needs to address the specific situation of these women and identify ways by which to enforce the principles of OSH legislation for them and demonstrate how they could be better protected. How to reach these workers and consult them about their specific situation may be a particular challenge for inspection and prevention services.

Women returning to work from caring responsibilities often have to suffer from discrimination, such as being given only limited job responsibilities, unfair work allocation and/or denial of access to specific tasks. Women who work part time, on shifts and on non-standard working hours may be left out of the equation and not be addressed by prevention efforts.

Managers and workers need training on how they can most effectively address violence and harassment. Effective management also includes providing information to the customers and wider public. Lone workers' safety systems are applied in other areas of industry. They could also be adapted to the specific needs of female-dominated service sectors.

Musculoskeletal disorders (MSDs) — an increasing health problem

Musculoskeletal disorders and work-related stress remain more of a concern for women than for men (as shown in previous EU-OSHA research on gender issues at work (EU-OSHA 2003a), Table 1 and 3). They may also interact to aggravate the problems.

In connection with MSDs, the lifting of heavy loads or people remains a risk for women workers, especially those who work in healthcare or carry out informal work. For example, as shown in this review, a German study found that healthcare workers carry greater loads than construction workers. Overall, the data reflect the misperceptions that continue to exist about what is strenuous work, especially for those jobs mainly done by women.

When extracting the data by sectors and occupations, interesting results are found. As an example, carrying or moving heavy loads affects on average 5.8 % of workers, but in the female-dominated healthcare sector it affects almost half the working population (43.4 %), an effect suppressed by a general averaged appreciation of the situation. Considering that the main group in the healthcare sector is characterised by middle-aged to older women, this highlights the need for them to be considered for prevention.

Courtesy of INSHT

The different female-dominated sectors show distinct patterns of exposure to risk factors that have been related to MSDs, and this should be taken into account when designing OSH prevention and action for these workplaces. In the hospitality and retail sectors, jobs tend to be more monotonous and repetitive, with fewer training needs reported and fewer learning opportunities, whereas jobs in the health sector, public administration and education seem to be characterised by complex tasks, higher training needs and more learning opportunities. Team working and task rotation are quite common in the health sector, while the education sector is characterised by more lone work. In education, public administration and education workers report that they have to solve problems more often than do workers on average.

Regarding recognised occupational diseases, while the incidence rate of MSDs is lower in female than in male workers, with the exception of carpal tunnel syndrome and hand and wrist tenosynovitis, when considering all occupational disease, MSDs make up a much higher proportion of all recognised occupational diseases among female workers than among male workers. The prevalence and incidence of MSDs differs by occupational sector among women.

Recent research by EU-OSHA (EU-OSHA, 2010) has shown that the risk of MSDs among women may be under-rated, and that specific diseases linked to prolonged standing, sitting and static postures may be left out of the picture. For example, French researchers found that certain jobs were linked to an increased risk of osteoarthritis in the knees, hips and hands; the workers found to be most at risk were female cleaners, women in the clothing industry, male masons and other construction workers, and male and female agriculture workers. This is why the report recommended that national worker surveys be extended to include lower-limb symptoms, for example pain in legs, hips and knees, in their assessments and that they record static postures and prolonged standing and sitting and their health effects. Static work is not currently assessed, and the related health effects are under-researched. Some national surveys address these risk factors and demonstrate that women may be considerably affected by them — a fact that is currently excluded from the general European picture.

Research by EU-OSHA has shown that the risk of MSDs among women may be under-rated, and that specific diseases linked to prolonged standing, sitting and static postures may be left out of the picture. But some Member States have designed effective programmes to tackle static work, for example in office jobs.

Many of the MSD problems experienced by women workers can be exacerbated by the fact that work equipment (such as desks, chairs and factory benches) is designed to meet the ergonomic needs of the average male. Gender insensitivity to the way in which work and workplaces are designed could contribute to repetitive strain injury among female workers.

Static work may affect women in particular, as more women than men work in the public service and in office jobs. With computers and the use of e-mail, there is no longer much need for people to move around the office. The everyday tasks that used to be a routine part of office work — hand-delivering documents, walking over to co-workers to discuss issues or share work — can now be accomplished with a simple mouse click. No movement is required. There are examples of good practice to address these problems. The German 'New Quality of Work' initiative developed a brochure offering advice to workers who spend much of the day sitting down, to help get them up and moving more often. Basic information is given on how to incorporate appropriate work organisation into office workplace design, including 'dynamic' furniture to make it more motion-friendly. It provides guidance on how workers can alternate work postures, and offers dynamic solutions for frequent movement to help workers stay healthy. It is EU-OSHA's role to collect such examples across Member States and help in promoting and sharing these positive experiences.

In some Member States, rates of MSDs are also increasing among young workers. This should be explored to target prevention to young women and tailor it to their specific conditions at work.

In some Member States, rates of MSDs are also increasing among young workers. This should be explored to target prevention to young women and tailor it to their specific conditions at work.

Alongside understanding the role of work-related risk factors for MSDs faced by women workers, it is also important to identify and understand the nature of risk factors faced by women at home and how these contribute to or interact with risk factors in the workplace. Risk factors at work (repetitive work and poor ergonomic equipment) and factors at home (having less opportunity to relax and exercise outside of work) may help explain the observed gender difference in symptom severity.

There is a perception that the invisibility of risks is natural for women, and this is facilitated by the stereotyping of the effects of the distribution of risks. For example, it is accepted that women who work as nurses and teachers will cope with their workload, as part of the natural condition of being mothers, sisters and spouses, and so are better conditioned to deal with difficult patients, for example. The 'risk' therefore has traditionally tended to be ignored in such situations.

It can be concluded that the definite conditions of work need to be considered, regarding not only physical risks but also organisational risks, when risk assessment is carried out.

Avoiding assumptions is key to setting up appropriate prevention measures and providing the many female workers in these sectors with appropriate training and support.

Women's exposure to dangerous substances remains largely unexplored

This review found that exposure to dangerous substances remains underassessed. The EWCSs over the past 20 years revealed that female workers are more often exposed to infectious materials such as waste, bodily fluids and laboratory materials at work, and female workers report more infectious diseases than their male counterparts.

Among the exposures to dangerous substances, handling chemical substances and infectious materials can be found mainly in the female-dominated health sector, but also in other service occupations. These exposures are often overlooked. Moreover, workers in service sectors, such as healthcare, hairdressing and cosmetology, may also be exposed to dangerous carcinogens at work. In 'green jobs', such as waste management, women may be exposed to asbestos and silica dusts, as well as a variety of chemical substances and biological agents. Food manufacturing and textile and leather industries are other sectors where women may be exposed to a variety of chemicals and biological agents.

Women are generally not considered to be exposed to carcinogens to the same extent as men, but they may be in specific occupations, for example dry-cleaners exposed to trichloroethylene; dental workers exposed to beryllium; healthcare workers exposed to the hepatitis virus, which may cause liver cancer, or cytostatic drugs; or manufacturing workers exposed to silica or mineral fibres. This is also reflected in the low number of notified occupational diseases, although with wider screening and monitoring national figures have revealed a slow increase in notified mesothelioma cases in women.

Courtesy of INSHT

Exposures in these occupations, but also in other tasks such as cleaning, may be varied and are often unpredictable. This is why it is crucial to avoid assumptions about what women are exposed to and to apply the same principles of risk assessment, substitution and elimination, and the hierarchy of prevention measures, as defined in EU prevention approach, as for other workers. Table 1 provides an overview of the many exposures that women may incur.

Table 1: Examples of potential exposures to dangerous substances for female workers

Substance	Source	Circumstances	Occupation, task
Biological and infectious agents	Animals Foodstuffs, perishable goods Insects and other vectors Contact with passengers, patients, clients	Cleaning Contact with foodstuffs Contact with infected clients and goods Contact with animals Cuts and stings Contact with infectious agents when travelling abroad	Farmers and agricultural workers Cleaners Service and maintenance workers Healthcare staff Hairdressers Catering staff Teachers and nursery workers Retail workers Home care
Dusts, particles	Dangerous goods Textile fibres (e.g. cotton) Foodstuffs (grain dust, dust from stored foodstuffs)		Textile workers Cleaners and dry-cleaners Maintenance workers
Cosmetic products		Hairdressing Domestic care Healthcare	Hairdressers Healthcare workers
Disinfectants	Cleaning products Healthcare products	Cleaning work areas Disinfection in healthcare	Healthcare workers Cleaners Maintenance workers

Substance	Source	Circumstances	Occupation, task
Exhaust fumes Diesel exhaust and particles	Exhaust from combustion engine, including diesel and other engines on trucks, ships, trains and buses	Unintentional contact when loading and unloading Maintenance Refuelling Vehicle parking areas	Maintenance workers Retail workers Drivers, delivery and cargo workers Couriers Workers on business trips Transport workers
Sensitising substances	Foodstuffs, perishable goods Cleaning agents		Catering, cooks Cargo workers Cleaners
Pesticides and storage chemicals	Foodstuffs Storage Plants Animals	Agriculture &farming Horticulture Workers who handle goods from containers and in storage areas	Farmers and agricultural workers Gardeners Retail Cleaners
Lead and other metals	Manufacturing of electronic devices Dental care Optometrists	Manufacturing of dental prostheses, spectacles, electronic devices	
Solvents	Cleaning products Fuels Ambient air Paints, inks, glues and varnishes Cosmetics Resins and glues Drugs	Cleaning Dry-cleaning of textiles Printing Laboratory work Handling medication Fabrication of dental and optometric devices	Manufacturing Leather industry Textile industry Cleaners and dry-cleaners Hairdressers Service on ships, trains, buses Printing Laboratory work, pharmacists, chemists
Flammable and explosive substances	Solvents (see above) Fuels	Cleaning, dry-cleaning Handling solvent-containing products Accidents and spills Maintenance Refuelling	Cleaners, dry-cleaners Manufacturing workers Maintenance workers

Substance	Source	Circumstances	Occupation, task
Carcinogenic substances			
Drugs	Cytostatic drugs		Healthcare
Asbestos	Insulation materials Waste management		Waste handlers Maintenance and cleaning workers Relatives of asbestos workers
Asbestos-containing talcum	Healthcare Laboratories		
Mineral fibres	Waste management Manufacturing of glass and objects made of glass		
Crystalline silica	Workers exposed to dust and ambient dust Sanding of manufactured textile and other products	Sanding of textiles Abrasive treatment of silica generating materials, such as glass	Manufacturing Textile industry Cleaners, e.g. on construction sites or from contaminated clothing
Beryllium	Dental workers		Fabrication of dental prostheses
Carcinogenic soldering fumes	Manufacturing of electronic devices		
Carcinogenic solvents	Manufacturing, for example of shoes and leather products Laboratories	Use of paints and glues Use of organic solvents	Shoe and leather manufacturing Laboratory workers, chemists
Carcinogenic dyes	Textile industry Hair dyes	Dyeing of hair and textiles	Textile industry Hairdressers
Diesel fumes	Vehicles, including in storage areas	Working in storage areas Workers driving and attending vehicles	Transport workers Retail workers Couriers and workers on business trips Cleaners in areas with high numbers of vehicles
Ethylene oxide	Healthcare	Disinfection of medical devices	

Substance	Source	Circumstances	Occupation, task
Formaldehyde	Cosmetics Healthcare products		Hairdressers and associated professions Healthcare
Rubber constituents	Retail Manufacturing		
Tobacco fumes	Hotels, restaurants and catering		
Trichloroethylene	Cleaning, dry-cleaning Manufacturing		Cleaners and dry-cleaners Manufacturing
Radioactive substances	Healthcare Laboratories		

Gender differences in uptake and metabolisation of dangerous substances have been further explored: it has been found that, on average, women have smaller body dimensions than men, which equates to a smaller surface for chemical exposure through the skin. However, despite this smaller surface their organ blood flow is relatively higher, thereby increasing the rate at which chemical substances circulating in the blood reach the tissues; their renal clearance is also slower than men's, which reduces their capacity to emit toxic compounds. As such, the gender perspective in exposure is very relevant.

Scientific evidence increasingly shows that some industrial chemicals, known as endocrine-disrupting compounds (EDCs), or hormone disruptors, can have considerable effects on workers and act on their offspring, particularly if exposure occurs during fetal development. Other stages of rapid development are also vulnerable to hormone disruption. With exposure, women and girls are at greater risk of developing reproductive health problems such as early puberty, infertility and breast cancer

Courtesy of the Austrian Workers' Compensation Board

Some industrial chemicals, known as endocrine-disrupting compounds (EDCs), or hormone disruptors, can have considerable effects on workers and act on their offspring. With exposure, women and girls are at greater risk of developing reproductive health problems such as early puberty, infertility and breast cancer.

Occupational diseases and cancer in women

Information on occupational cancer in women is still scarce, although the recent recognition of night work as a contributing factor to breast cancer has led to a breakthrough, allowing for organisational factors to be considered a leading cause for diseases normally attributed to dangerous substances. This review also confirms that cancer assessment and exposure monitoring for carcinogens, as well as occupational disease lists, are still strongly focused on male jobs and male exposures. Initial attempts have been made to provide advice on how to better organise shift work and rest schedules to prevent cancer risks. These initiatives are presented in this report.

One ongoing French study found similar rates of occupational cancer occurring in both genders from exposures to at least three different carcinogens. Recognised mesothelioma cases in women are also increasing, and a possible link between cancer and occupational exposure to chemicals has been established for women in some service occupations, such as middle-aged healthcare workers, hairdressers and textiles and home services workers.

The recent recognition of night work as a contributing factor to breast cancer has led to a breakthrough, allowing for organisational factors to be considered a leading cause for diseases normally attributed to dangerous substances. This review also confirms that cancer assessment and exposure monitoring for carcinogens, as well as occupational disease lists, are still strongly focused on male jobs and male exposures. Initial attempts have been made to provide advice on how to better organise shift work and rest schedules to prevent cancer risks. These initiatives are presented in this report.

However, recognition rates are still very low, as is the state of knowledge about the exposures that may lead to occupational cancer in women. In the USA, the National Institute for Occupational Safety and Health (NIOSH) continues to study the links between the hazardous substances ethylene oxide (ETO), polychlorinated biphenyls (PCBs) and perchloroethylene and cancer in women (especially breast and cervical). ETO is used to sterilise medical supplies, and in 2001 it was estimated that more than 100,000 women in US workplaces were exposed to the substance. PCBs are compounds previously used in the electrical industry that have been banned since 1977. However, products made with PCBs remain in the workplace and in the environment, so workers remain exposed to the compound. Women who work in the dry-cleaning industry are exposed to perchloroethylene as it is the main solvent used in this industry.

Earlier studies that found that female flight attendants were at an increased risk of developing all cancers, particularly of melanoma and breast cancer, were confirmed.

A recent study (Tieves, 2011) has demonstrated that awareness may be key: a detailed analysis of national data on occupational diseases shows that diseases of female workers are significantly less often notified and, when they are, recognition rates are much lower. Many diseases are not assessed for their occupational component. The link between occupational exposure and disease is also much less explored for female workers, leading to omission of risk factors relevant for women from the overall assessment. This suggests the need for a better assessment of chemical-related cancer diseases in women.

A detailed analysis of national data on occupational diseases shows that diseases of female workers are significantly less often notified and, when they are, recognition rates are much lower.

As noted, women work part time more often than men. Part-time workers tend to have less access to training, less control over their work, and less access to preventive services. These factors all increase their exposure. In this way, broader issues may considerably influence the health and safety situation and the ability of these workers to cope with their exposure. Also, they may be left out of relevant research and therefore overlooked. Exposures are rarely documented.

Combined exposures

This review attempted to explore literature describing combined exposure to women at work (Tables 2, 4). A recent EU-OSHA review (EU-OSHA, 2009a) addressed combined exposures to noise and ototoxic substances and found that they could be relevant to women in various sectors and occupations, in manufacturing sectors with a high proportion of female workers, such as food production and the textile industry, and also in service sectors such as hotel, restaurant and catering and healthcare, or in industrial cleaning and maintenance. Combined exposures of noise and chemicals may lead to neurotoxic effects.

The European Risk Observatory's emerging risks reviews have also highlighted combined exposure as a particular issue for research, especially for workers in service professions.

By courtesy of INSHT

Detailed analyses of national and European data sources show that in many professions women are exposed to several ergonomic risks at any one time, which in turn may contribute to the higher prevalence of MSDs when compared with male workers. The different sectors show distinct patterns of exposures to different risk factors, but in all sectors several risk factors are much more prevalent than on average. As an example, while workers in the hotel, restaurant and catering sector more often perform monotonous and repetitive tasks, carry heavy loads and are exposed to tiring postures, their counterparts in the healthcare sector report complex tasks, frequent interruptions and working with computers. Both groups are highly exposed to prolonged standing and other multiple physical and organisational risk factors that may lead to MSDs.

The European Risk Observatory's emerging risks reviews have also highlighted combined exposure as a particular issue for research, especially for workers in service professions.

In addition to the single risk factors, as demonstrated by a French study, multiple exposures to more than one risk factor related to MSDs are slightly more common among women than among their male counterparts (SUMER, 2003). Also, while exposures decreased with age for male workers, they increased for females. The patterns of combined exposures are also distinct and characterised by repetitiveness and postures that are particularly strenuous ergonomically (twisting, bending and stretching).

Other studies highlight prolonged standing and sitting combined with static work as particularly relevant for female professions and underassessed in national surveys and monitoring tools. A European study found that there was a higher proportion of women carrying out repetitive tasks for a longer period than men and that this may be because of the need to retain jobs in areas that suit their wider social needs.

According to the fourth EWCS, more female workers (48.5 %) than their male counterparts (43.1 %) worked with computers. Furthermore, female workers (38.0 %) used the Internet and e-mail more often at work than the opposite sex (34.5 %). Women predominate in health education and the public sector, as well as in clerical occupations, which can all be characterised by a greater use of IT, static postures and prolonged standing or sitting.

Complex tasks go hand in hand with the need for more training in healthcare and education, while monotonous tasks are combined with high speed of work and tight deadlines in the hotel, restaurant

and catering sector. Common to all the service professions is that the pace is dependent on customers and there are frequent interruptions.

A recent EU-OSHA study (2009b) found that the age of workers and the fact that cleaners are working at night or early in the morning contributed to the risk of slip and trip injuries, as their reaction times increase and concentration levels decrease at night. A characteristic of the cleaning sector in Europe is the dominance of women, particularly mature women. However, age is not the only reason for high accident rates. Cleaners have to work with and on dirty floors, wet floors, different floor coverings and changes from wet to dry areas. Moreover, cleaners can seldom influence the orderliness of a workplace. Thus, the risk of a trip caused by objects dropped on the floor is quite high. The cleaning industry also employs a high proportion of workers from ethnic minorities and many migrant workers, who may work without adequately understanding the instructions of the trainer or employer. Above all, there is a tendency to ignore health and safety in low-paid jobs such as cleaning.

While the review provides some recent information on combined exposures in female jobs, it also highlights this as an area where more research is needed to improve prevention.

Courtesy of INSHT

Table 2: Combined risks — a major issue for women at work

Risk factors and conditions	Outcomes
Working in service sectors Jobs not covered by OSH legislation Prolonged standing and sitting Static postures Monotonous and repetitive work Moving loads repetitively and moving people Exposure to biological and chemical agents Client and patient contact Working at clients' premises Multiple roles Lack of information and training Low control, autonomy and support	Stress and mental health problems Different accidents: slips, trips and falls, violence related, needlestick injuries, cuts and sprains Fatigue and cognitive disorders Musculoskeletal disorders Infectious diseases Skin disorders, asthma

Table 3: Examples of hazards and risks found in female-dominated occupations

Work area	Risk factors and health problems			
	Biological	Physical	Chemical	Psychosocial
Healthcare	Infectious diseases — bloodborne, respiratory, etc.	Manual handling and strenuous postures; ionising radiation	Cleaning, sterilising and disinfecting agents; drugs; anaesthetic gases	'Emotionally demanding' work; shift and night work; violence from clients and the public
Nursery workers	Infectious diseases, particularly respiratory	Manual handling; strenuous postures		'Emotional work'
Cleaning	Infectious diseases; dermatitis	Manual handling; strenuous postures; slips and falls; wet hands	Cleaning agents	Unsocial hours; violence, e.g. if working in isolation or late
Food production	Infectious diseases, e.g. animal borne and from mould spores; organic dusts	Repetitive movements, e.g. in packing jobs or abattoirs; knife wounds; cold temperatures; noise	Pesticide residues; sterilising agents; sensitising spices and additives	Stress associated with repetitive assembly-line work
Catering and restaurant work	Dermatitis	Manual handling; repetitive chopping; cuts from knives; burns; slips and falls; heat; cleaning agents	Passive smoking; cleaning agents	Stress from hectic work, dealing with the public, violence and harassment
Textiles and clothing	Organic dusts	Noise; repetitive movements and awkward postures; needle injuries	Dyes and other chemicals, including formaldehyde in permanent presses and stain removal solvents; dust	Stress associated with repetitive assembly-line work
Laundries	Infected linen, e.g. in hospitals	Manual handling and strenuous postures; heat	Dry-cleaning solvents	Stress associated with repetitive and fast-paced work
Ceramics sector		Repetitive movements; manual handling	Glazes, lead, silica dust	Stress associated with repetitive assembly-line work

Work area	Risk factors and health problems			
	Biological	Physical	Chemical	Psychosocial
'Light' manufacturing		Repetitive movements, e.g. in assembly work; awkward postures; manual handling	Chemicals in micro-electronics	Stress associated with repetitive assembly-line work
Call centres		Voice problems associated with talking; awkward postures; excessive sitting	Poor indoor air quality	Stress associated with dealing with clients, pace of work and repetitive work
Education	Infectious diseases, e.g. respiratory, measles	Prolonged standing; voice problems	Poor indoor air quality	'Emotionally demanding' work, violence

Source: EU-OSHA (2003a: 12–13)

Disability and rehabilitation

As work ability has become a major issue in social policy, as a result of the ageing of the working population, and considering the fact that female workers suffer more from diseases leading to long workplace absences such as MSDs and mental health problems, this review looked at women's access to rehabilitation and back-to-work schemes and disabled women's access to work. Work ability is also an important issue as more and more older women enter the labour market and the retirement age is being revised for women in many national pension systems.

In examining workers with disabilities and their access to vocational rehabilitation and compensation, the data show that, on average, within the EU women and men tend to have similar rates of disability. This equality tends to reduce, however, when workers access rehabilitation and apply for compensation. In general, doctors are less likely to recommend rehabilitation programmes to women, which may be one of the contributing factors to women's lower participation rates in these schemes. Other contributing factors may be their age, their lower income and the fact that they are often caring for dependants.

The study also found that there is no clear line drawn between acquired disability and disability linked to other factors, and this was especially true for female workers. When they gain employment, women with disabilities still have barriers to overcome, such as their perception of their job, underemployment, lack of accommodation for their disability and employers' attitudes. Accommodation is a crucial aspect of women's ability to progress in their careers. One issue that affected how women overcame problems was assistance at work, but this was most influenced by whether or not the disability was visible. One study reported that a larger percentage of women with 'visible' disabilities, such as amputations, artificial limbs or blindness that required the use of canes and guide dogs, were likely to state that they received assistance than those whose disabilities were less pronounced.

One study found that vocational rehabilitation training was biased towards industry rather than sectors such as services and the public sector, in which women predominate. In addition, the vocational rehabilitation schemes operated on the assumption that employment will be full time, so failed to take into account the working patterns that may be more suitable for women workers. This in turn led to low participation. As so few women chose to attend, there was no pressure on the centres to change their schemes to accommodate them. Another study remarked that compensation often fails to account for childcare needs while the rehabilitation takes place.

In Sweden, one assessment of the relationship between sick leave and disability pension found that, although more women than men were granted a disability pension because of their condition, more women were granted a part-time temporary disability pension and more men a permanent pension. This is despite women having a higher rate of long-term sick leave. Those authors suggest that as men are more likely to work full time there may be a cultural bias against giving them a partial pension. Also, they note that if women state that they are able to do housework, then they are rarely given a full-time disability pension. The need for women to consistently and constantly have to *justify* their right to compensation does not seem to have advanced far since the 1950s and 1960s, when the difficulties that women encountered when seeking compensation for work-related injuries and illnesses were first highlighted.

It can be concluded that there needs to be a higher take-up by women of these schemes, as women with disabilities, whether acquired at work or not, are limited in their choice of occupation, and may engage in jobs that are repetitive and could be more hazardous, as the workstations, machinery and equipment that they use are often designed for men.

EU-OSHA's research on young workers also found that access for young workers to rehabilitation schemes was very limited. This should also be considered for young women, particularly as research also shows that they display high levels of MSDs, and levels of disease in young people were found to be increasing in Member States where data were thoroughly analysed.

Conclusions for policy, research and prevention

A large proportion of women work in jobs that are safe and that offer training and promotion opportunities. However, many do not and it is important that these concerns are put on the agenda for policy-makers and researchers.

With more and more women working under non-standard working conditions, other issues that need to be addressed by research, legislation and prevention are:

- How to reach women who work weekends, part time and shifts.
- How to cover them in workplace inspections by inspectors or OSH professionals.
- How to assess their exposure.
- How to ensure their representation as workers.
- How to ensure the OSH of women who work in personal services, at the premises/homes of their employers.
- How to ensure the OSH of women who work for several employers.

It is important for women that risk assessments take account of psychosocial as well as physical risks. This is because most women, more so than men, work in education, healthcare, retail and the hotel restaurant and catering sectors, which entails having face-to-face contact with customers and clients. In addition, women continue to do most of the childcare and the housework at home. Many of these are public sector jobs for which OSH implementation is a challenge.

It must be remembered that women, as much as men, are not a single category of workers; they are a diverse labour force and the needs of the different age groups and different cultures within this body of workers may be different. In view of this, a more targeted, gender-sensitive approach to research and prevention is needed.

As outlined over the years, more information, and therefore research, is required to explore the links between women's reproductive health and the conditions under which they work. This is still not a priority within policy or research agendas and this needs to change. Further, women have a high rate of developing certain cancers, such as breast, colorectal and endometrial, which have been linked to environmental factors and working conditions, and more research is needed to further explore these connections.

Other broader issues

Work–life balance has been researched consistently over the last 20 years or so and the evidence shows that the ability to balance work and home life remains problematic for women and impacts on their psychological well-being to an even greater extent than for men. Women generally tend to be seen as the 'carers' within the social system and so assume responsibility for the home and for children and parents. Therefore, when the demands of work and home are combined, women have more responsibilities and work longer hours than men. Even in countries with 'women worker' family-friendly policies, women experience stress more often than men and are discriminated against with respect to work-related compensation for a disability because of their ability to do housework.

As with part-time work, some women choose to work shifts, again often to deal with childcare and eldercare obligations. Migrant women and those who work 'informally' are also likely to engage in these work patterns. These work patterns, while not gender specific, make women more vulnerable to work risks and hazards. It is important that OSH risks are analysed by gender and sector, as well as by occupation.

Implications for practice and research

This review examines many aspects of women at work and their OSH concerns. However, there are gaps in the research that need to be addressed, and there are policies that are promoted from a 'worker' perspective that is more beneficial to the male than the female employee. As this review shows, more research is needed in such areas as **non-standard working conditions**, **domestic workers within multiple households or multiple offices**, **ageing workers in the health sector**, **the increasing rate of work intensity**, **assessing risks for female workers**, **multiple exposures including biological risks, increasingly static work in services, women-specific research on rehabilitation and re-entry into work and informal work.** These growing, but under-researched, areas should provide information that will outline to a greater degree the issues that impact on women's OSH. It is important to fit the job to the worker, rather than fit the worker to the job, especially when the worker can be seen from different perspectives, for example female, young, migrant or with a disability. Overall, OSH needs to reflect the specific needs of the worker.

Table 4: How employment trends and combined exposures may impact on women's OSH

Trends	OSH implications
Employment trends	
Women are increasingly concentrated in part-time and casual jobs, particularly in the retail trade and consumer services sector, impacting on their salaries and career prospects Informal work and jobs in home care and as cleaners are on the increase, especially for migrant women Move towards 'mini-jobs' not covered by labour law Women continue to trail men in terms of career advancement, levels of compensation and gaining higher status	Stress and related health problems, fatigue and cognitive health problems Repetitive strain injuries caused by repetitive and monotonous work Low job control and autonomy, feelings of low self-esteem, low motivation and job dissatisfaction for women OSH difficult to organise for women who work at their clients' premises, how to enforce, how to assess risks, how to ensure labour protection Less access to (OSH) training, consultation, less representation in decision-making that may influence their working conditions

Trends	OSH implications
Occupational segregation	
Women continue to work mainly in services, whereas men work mainly in construction, utilities, transport and manufacturing Increases in activity highest for women aged 55–64 years Older women work more in education, health and social work and public administration Employment in manufacturing is decreasing Female workforce is ageing in some sectors (manufacturing, agriculture) Women highly represented in informal work, home and domestic services	Different risks for men and women — prolonged sitting and standing and static work are significant for women More client contact — more harassment and violence Different risks for different age groups — prevention should be tailored Occupational accident rates stagnating in some sectors, not recorded for education, healthcare and sectors with high rates of informal work (e.g. agriculture) Older women exposed to heavy work Less access to training for older women, less access to consultation, representation and preventive services in the informal sector
Work organisation and working time	
When both paid and unpaid work (domestic) are considered, women have the longest total working week, especially if they work full time Trend to irregular working times, especially in the informal sector, when working at clients' premises, and in the restaurant and hotel trade Shift and weekend work in Horeca, retail and healthcare concern women of all ages Less autonomy at work	Stress Circulatory disorders Reproductive problems Musculoskeletal disorders Less access to preventive services, consultation, representation Difficulties in assessing what is work related and implementing changes Labour law does not apply to mini-jobs, enforcement difficult Difficulties to enforce OSH for multiple jobs and constantly changing jobs Exposures difficult to assess for multiple jobs, difficulties to monitor and record risks and health effects
Younger women	
Unemployment gap between young men and women has clearly diminished; in some countries unemployment of young men has even become slightly higher. Younger women work more in retail and Horeca Younger women work more in low-qualified jobs and on temporary contracts Gender pay gap already at the start of career Employment gap particularly high for mothers aged 15–24 with very young children and school-age children	Different risks and trends for different age groups — prevention should be tailored Lack of experience and training of young women Younger women exposed to sexual harassment High exposure to violence, due to client contact Occupational accidents even increasing in some countries in female-dominated sectors, such as Horeca Less access to consultation, preventive services, representation at enterprise level Young mothers are a particularly vulnerable group

Policy recommendations

The European Commission's five-year Strategy for Safety and Health at Work 2007–2012 has recently been evaluated. As the European Parliament noted in its Resolution on the strategy in January 2008 (EP, 2008):

> it is worrying that the reduction in the number of occupational accidents and diseases has not been evenly spread as certain categories of workers (e.g. migrants, workers with precarious contracts, women, younger and older workers) certain companies (notably small and medium-sized enterprises (SMEs) and micro-enterprises), certain sectors of activity (in particular construction, fisheries, agriculture and transport), and certain Member States present rates of occupational accidents and diseases much higher than the EU average.

The Strategy set a target to reduce the incidence rate of accidents at work by 25 % for the EU-27, through support for the full and effective implementation of EU legislation. The Strategy also called for the development of national strategies to encourage and support approaches that are focused on health in the workplace and to identify new potential risks. However, there are clear indications that accident rates are stagnating or even increasing in some sectors with a high proportion of women, such as hospitality or retail sectors.

Specific actions in relation to OSH are also included in the Commission Staff Working Document on Actions to implement the Strategy for Equality between Women and Men 2010–2015 (EC, 2010b) to include measures to:

- promote health and gender impact assessment of policies and programmes;
- take due account of gender aspects in the forthcoming EU Strategy on Health and Safety at Work (2013–2020);
- take account of the gender aspects in the legislative work on ergonomics and work-related musculoskeletal disorders (WRMSDs) as well as in the preparatory work for a possible review of Directive 2004/37/EC; and
- take account of the gender aspects in the preparatory work for a possible review of Directive 2004/37/EC on carcinogens and mutagens.

Other recommendations can be drawn from the results of this report:

- The need for gender-specific safety and health legislation and monitoring should be reassessed, as sectors traditionally deemed as 'low risk', for example those involving education and office-related jobs, are now seen as more dangerous, for example regarding harassment and stress. It can be concluded that the definite conditions of work, regarding not only physical but also organisational risks, need to be considered when risk assessment is carried out. Avoiding assumptions is key to setting the appropriate prevention measures and providing the many female workers in these sectors with appropriate training and support.
- Improving the identification of risks and exposures will be important to 'make the invisible visible', as are improved data documenting these risks and exposures, and the related health effects, and a wider range of indicators and more differentiated monitoring instruments to reflect the tasks, occupations and risks specifically faced by women.
- Ensure women's participation in policy discussions and when drawing up legislation. It will be important to ensure that women participate in the development of OSH strategies and policies and their implementation in the workplace. For example, it will be important to ensure that more women elect directly and take roles as workplace safety and health representatives, and that the social partners play a key role in driving gender mainstreaming in OSH.
- Member States should be encouraged to actively implement gender mainstreaming in OSH and include the gender and diversity element in their national OSH strategies.
- As highlighted before by EU-OSHA, EU Member States, when transposing Directives, should ensure that gender is dealt with in a systematic and comprehensive fashion. This is especially important as more women are moving into occupations that were traditionally dominated by men, such as construction, transport and agriculture, and their OSH needs may differ.
- A broader and more holistic approach to OSH would also enable a shift away from an exclusive emphasis on accidents to a more comprehensive approach that takes into account psychosocial factors, work autonomy and work–life balance, among others.

- Recent trends in the world of work, such as the move away from industrial workplaces to services, increasing mobility, use of new technologies, intensification and increasing precariousness of work need to be assessed for their specific effect on women and their OSH. The adaptation of research and monitoring tools also needs to take account of these trends.
- Owing to the prevailing occupational segregation, there are different patterns of occupational disease and illness between men and women. As the standards continue to reflect male characteristics that do not take account of the physical and physiological differences between men and women, the current taxonomy still does not sufficiently reflect women's exposures and health problems at work. Although comprehensive studies have been conducted in the area of occupational exposures of women at work, researchers have highlighted the need for further exploration related to occupational exposures and women.
- Adapt labour inspection practice to the increasing number of women in the labour market, the observed shift from industry to services, and the changes in contractual arrangements. A gendered approach to interventions is warranted: resources should be assessed for the contribution they make for an increasingly female workforce, and for how they are adapted to the specific needs in these diverse service sectors. Design OSH prevention resources to address these changes.
- The differences between countries are enormous, and for this reason the situation should be assessed in a differentiated way, and by country. National OSH strategies that integrate developments which impact on the employment situation of women, such as education and vocational training, health provision, care facilities and employment strategies, could help tailor the actions at the national level and make them more effective. Furthermore, the gender impact of rapid changes in the newer Member States should be monitored in order to avoid the risk of wider gender inequality.
- The differences between Member States' policies should be explored to identify what the success factors are for the effective integration of women in the labour market, while at the same time taking account of their OSH situation.
- Some of the ways that have been proposed to make jobs safer include increasing and improving training to workers, especially those who work part time. For example, training and OSH education could be scheduled at times when part-timers or workers on flexible hours are able to participate. For older women entering the labour market after years of vocational inactivity, retraining would be beneficial. Flexible working would benefit women with work–family conflicts, such as child and elder care responsibilities.
- Female workers on business trips or workers who have to work at their clients' or patients' premises may not be covered by the usual OSH structures, such as OSH preventive services and inspections by the authorities. These workers may be more vulnerable and dependent on their clients, while at the same time have limited scope for adapting their working conditions. They may also work for several employers and in several jobs. Policy, research and prevention should address the risks that female workers on farms, in homes (home care, cleaners, childcare), driving for work and at clients' premises may face. Clients of such services should be included in the target groups for OSH information and campaigning for prevention in these sectors, as should the organisers of such services.

Monitoring and statistics

- Monitoring tools at the European level need to be critically assessed on how confounding factors and wider issues are taken into account. For the European accident statistics, it was found that the difference between women and men was smaller when incidence rates were calculated on a full-time equivalent basis, because women worked part time more often than men and were therefore exposed to the risk of accidents for shorter times. If the incidence rates were also standardised for the different occupations in which women and men work, the incidence rates were nearly equal for some countries. Unfortunately, these standardised data are not available from Eurostat for other years.
- All EU countries should be encouraged to have well-developed National Working Conditions Surveys, which are critically reviewed with regard to gender and diversity aspects, in order to obtain information that is standard across countries and provides detailed information.

- This may also support attempts to explore multiple exposures and design a more holistic approach to OSH research, prevention and practice.

Accidents and health effects

- Accident rates of female workers are not falling as much as they are for male workers. A lot is known about accidents sustained by male workers according to age groups and in the different sectors, but this is not the case for female workers. To target accident prevention, more information should be gathered about the type of accidents that women suffer in different occupations and sectors. Factors such as age, self-employment, sector and occupation, and migration background should be taken into account, as should multiple jobs. Part-time work and lack of access to preventive services could also be contributing factors.
- Women and men engage in different behaviours even when working in the same sector and in the same types of jobs. Women doing some jobs, such as taxi drivers, have significantly lower accident rates. This should be explored to help improve prevention.
- Static work, prolonged standing and sitting are risk factors particularly relevant to female service occupations that are not currently monitored and assessed in many workers' surveys, and the related health effects are under-researched. This is why a recent EU-OSHA report recommended that they be included in workers surveys, and that the occurrence of lower limb disorders in particular be investigated. Regarding age, the study demonstrated that MSD rates in young workers were increasing in some Member States. These trends should be followed up for young women and prevention measures tailored to reduce their MSD risk.
- Women are more susceptible to fatigue, depression and anxiety than men, and their poorer mental health may be linked to the multiple roles they perform on a daily basis. These data should be assessed in the context of cardiovascular diseases as the leading cause of death in EU countries.
- Exposures to dangerous substances in service occupations are common, but remain underassessed. Women's exposure in healthcare, hospitality, dry-cleaning, hairdressing and waste management may also involve carcinogens. Exposures in these occupations, and also in other tasks such as cleaning, may be varied and are often unpredictable. This is why it is crucial to avoid assumptions about what women are exposed to and to apply the same principles of risk assessment, substitution and elimination, and the hierarchy of prevention measures as defined in the EU's prevention approach for other workers. Gender differences in the uptake and metabolisation of dangerous substances should also be explored further.
- Research needs to address occupational diseases affecting women, in particular occupational cancer. A detailed analysis of national data shows that diseases of female workers are notified significantly less often, and, when they are, recognition rates are much lower. Many diseases are not assessed for their occupational component. The link between occupational exposure and disease is also much less explored for female workers, leading to risk factors relevant for women being omitted from the overall assessment.
- A broader view on reproductive health is needed. As raised in 2003 by EU-OSHA, and as the 'lack' of research continues to highlight, there should be a greater focus on reproductive issues in respect of overall occupational risks in the research agenda. More importantly, while there is some research on pregnant women and new mothers, there is far less research on other women's life experiences, such as hormonal effects, menstruation disorders and menopause.
- Also, in 2003 the point was made that research in respect of cancer mainly involved men, and this situation has not changed, as shown in this review over the medium term, although efforts have been made in some areas, for example regarding breast cancer.
- Recognition of night work as a contributing factor to the development of breast cancer in female workers has broken the ground for the recognition of work organisational causes in the development of occupational cancer. This could pave the way for an entirely new approach to occupational cancer, taking into account so-called 'soft' risks, in addition to the known 'hard' risks. Equally, such approaches could help pave the way for a better exploration of occupational risks to both men and women in emerging service occupations and a more holistic approach to OSH research and prevention.

- Research by WHO (WHO, 2009) recommended that specific gender-focused research needed to be undertaken in occupational health policies and programmes, to improve training, capacity and the delivery of occupational health services.

Violence at work

- Measures to target violence and harassment at work should be adapted to the specific needs of the sector and group considered. EU-OSHA has produced some multilingual guidance for some of the sectors (education, healthcare, hospitality).
- Efficient reporting systems for violence at work should be put in place to address under-reporting. These systems need to be linked with quick measures for action, whether to provide immediate support to workers in case of an event or counselling after the event.
- Generally, a holistic approach to OSH should be taken which identifies and takes into consideration work–life balance, harassment and discrimination. To strengthen awareness of the need for such an approach, stakeholders should discuss OSH activities with regard to female workers.

Rehabilitation and reintegration

- Owing to the position of women within the workforce, policy-makers and labour organisations should be aware that women with disabilities are at risk of double or multiple discrimination and therefore require special attention, and policies with a focus on gender should make allowances for this issue to reinforce guidelines for disability mainstreaming, especially as women with disabilities are discriminated against more than men with disabilities.
- Employers should be encouraged to have flexible and effective rehabilitation into work policies, so workers who are able to work only a percentage of the normal hours are retained in the workforce. This is becoming more of an issue as the working population in Europe is ageing. Female workers need to be explicitly addressed: rehabilitation measures should also be targeted at temporary workers and part-timers, who are often women, young or migrant workers.
- Rehabilitation and back-to-work policies should also address the pattern of work-related health problems specific to women, particularly the occurrence and distribution of MSDs and the higher prevalence of mental health disorders.
- Those responsible for implementing systems need to consider gender issues, and in particular the home life of women and how this affects their rehabilitation. Rehabilitation costs need to include both direct and indirect costs.
- There needs to be more research for women on vocational retraining, rehabilitation and reinsertion into work.

Vulnerable groups of female workers

- Some groups of women, such as young women or young mothers, may be particularly affected by the financial crisis, and it would be worth monitoring how this impacts on their health and safety at work. In some sectors where women work in large numbers, such as the hospitality sector, accident rates are increasing or stagnating. As demonstrated in previous EU-OSHA research, young workers in these sectors may also be more vulnerable and their employment conditions (e.g. difficulties in entering the labour market, temporary or short-term contracts) may make them accept inferior conditions of work.
- Older women are more likely to enter the workforce than in the past, and they are a much-needed group due to the overall ageing population across Europe. In this respect any research and preventive measures that could be carried out to ensure a more productive working environment for this group should be explored.
- More research is needed to assess the prevalence and gender aspects of the phenomenon of undeclared work in the EU.
- A comprehensive analysis is needed in respect of working conditions to confirm if there are significant gender differences between the formal and informal economy.

- Information on migrant workers' OSH can be a source of data about undeclared workers and gender issues related to work. More research should be carried out on migrant women workers and undeclared work.
- It may be beneficial to develop synergies with organisations that provide support to informal workers, for example to run non-governmental organisation-defined OSH training for workers in this sector to ensure that they are better able to deal with some of the risks and hazards they may encounter in these jobs, as these workers are difficult to reach.

Courtesy of INSHT

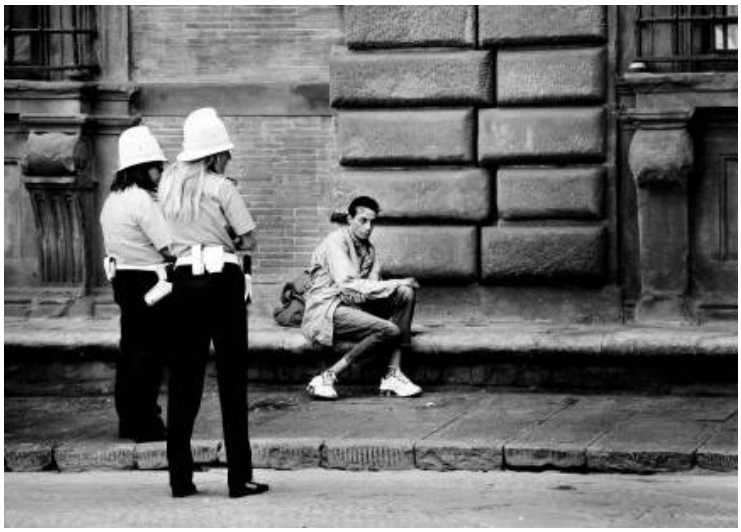
Gender mainstreaming and OSH — examples of successful implementation

Information is particularly scarce on official policies that aim to target the specific conditions of women at work, including the effective mainstreaming of gender aspects into, for example, OSH legislation and inspection practice by taking a gender-sensitive approach. For the purpose of this report, EU-OSHA has collected information on examples from Member States (Table 5), in particular:

- OSH legislation specific to women at work and regarding OSH issues, which is additional to pregnant women and breastfeeding mothers provisions implementing the Directive.
- Results of targeted inspection campaigns.
- Guidance, for example on OSH and diversity issues addressing gender.
- Gender-specific studies on risk factors, such as:
    - exposure to violence and harassment;
    - exposures to biological and chemical agents, including exposures to infectious agents, ergonomic risks, climatic risks;
    - gender differences in accident risks and causes and circumstances of workplace accidents;
    - work organisational issues (unusual working time, shift work, lone work, etc.);
    - use of personal protective or other equipment; and
    - work in 'male' sectors.
- Information on health outcomes:

  - Specific health problems identified, for example in surveys, targeted research or inspections.
  - Specific recognised occupational diseases.

- Issues related to specific groups (lone workers, migrant workers, young or older female workers, etc.).
- Inclusion of gender issues in research programmes.
- Programmes about how to make labour inspectors 'gender aware' or incorporate gender issues in their work.
- Programmes about how OSH authorities incorporate gender issues in their work.
  -



Photograph by Ruben Buhagiar (EU-OSHA photo competition, 2009)

  - Assessing work programmes for gender balance (e.g. ensuring that hospitals, hotels, restaurants and catering services, as well as construction, receive attention; gender-sensitive budgeting ([3])).

Some of the examples are included throughout this report and in a dedicated chapter towards the end of the report (Chapter 8). A more detailed study of such good-practice examples is currently being prepared by EU-OSHA and will be published in 2014.

Table 5: Women and health at work — examples of gender-sensitive studies and policies included in this report

Country	Programme	Issue
Europe	NEXT	Exploring experiences of work-related violence and premature departure from their profession among nurses in 10 Member States

([3]) According to the European Women's Lobby, 'gender budgeting' is the process by which public budgets are examined in order to assess whether or not they contribute to greater equality between women and men and subsequently to bringing about changes that promote gender equality accordingly. In the evolution of these exercises, the focus has been on auditing government budgets for their impact on women and girls. 'Gender-sensitive budgets' are not separate budgets for women and men. They are attempts to break down, or disaggregate, the government's mainstream budget according to its impact on women and men, and different groups of women and men (Women's Net, European Women's Lobby).

Country	Programme	Issue
Europe	ETUCE Second Survey on Cyber Harassment of Teachers	Exploring national teacher unions' actions and strategies; Gathering good practice to revise the ETUCE Action Plan on Violence and Harassment in Schools and include cyber-harassment
Austria (Austrian Labour Inspection)	Gender mainstreaming policy of the Austrian Labour Inspection	Gendered OSH strategy Policy for labour inspection activities, training of labour inspectors Guidance documents related to gender aspects of OSH and gender-sensitive workplace inspection Guidance for specific activities and emerging sectors/occupations, such as home care
Austria	Gender mainstreaming and noise exposure in orchestras	Risk assessment for female orchestra musicians Designing specific prevention measures (seating arrangements, hearing protection, screens, organisational measures)
Austria	Targeted campaign in nursing homes	OSH in elderly care homes and home care, gender-sensitive sectoral inspection and awareness-raising initiative to assess and improve the OSH situation of mainly female workers in the sector
Finland	Population Research Institute's project 'Equality and Multiculturalism at the Workplace'	Promoting the participation in working life of women with an immigrant background Target groups were workplaces recruiting immigrants and their personnel. The study showed the deep differences between the integration strategies of women from different socioeconomic backgrounds. It showed the importance of personal networks and supportive colleagues in attaining success at work
Finland	FIOH, 'Promoting gender equality and diversity at work'.	Ministry set a detailed strategic goal, to increase gender equality in Finnish working life by producing new scientific knowledge and by developing tools and practical methods for human resources managers and OSH professionals The 'work–life balance' research and action programme was launched (2005–09) to support a balance between work, family and other spheres of life The MONIKKO project emphasised the importance of equality from a wider perspective, taking into account age, ethnicity and family situation.The Institute has drafted a Gender Equality Plan, which was prepared in close cooperation with staff members

Country	Programme	Issue
Finland	The WORK programme focuses on women at work, especially with regard to the continuing increase in atypical employment contracts in Finland. In particular, two projects are funded by the Academy of Finland: 'Gender inequalities, emotional and aesthetic labour and well-being in work' and 'Impact of lifestyle modification on pregnant women's work ability, sick leave and return to employment'	Gender inequalities, emotional and aesthetic labour and well-being in work Mapping the practices of gender in working life more generally through qualitative case studies Analysing the practices of recruitment processes Practices of customer service in call centres and in women's small firms Impact of lifestyle modification on pregnant women's work ability, sick leave and return to employment Reducing sick leave Increasing work ability and return to work after maternal/parental leave
Finland	FIOH projects on women worker cancer survivors	Cancer survivors' employment, cancer survivors' work ability, cancer survivors' work engagement Cancer survivors received and needed social support from their workplace and the occupational health services
France	Gender analysis of the SUMER survey (expert survey conducted by OSH professionals among workers)	Gender dimension of workplace exposures and complaints, synthesised view of workplace exposures, based on national monitoring sources
Spain (Region of Castilla-León)	Guide for the prevention of OSH risks with a gender focus	Description of the situation of women at work Overview of relevant OSH and equalities legislation and programmes of relevant institutions Recommendations to protect women's health at work, including work–life balance, gender mainstreaming into OSH and protection of pregnant and breastfeeding women
Spain	Gender-sensitive guide to evaluation of physical loads (Instituto Nacional de Seguridad e Higiene en el Trabajo)	Guide addressing musculoskeletal disorders and risk factors from a gender-differentiating perspective. Provides monitoring methods, checklists and questionnaires regarding fatigue, physical workload (ergonomic assessment) and background guidance, including practical examples
Spain	Dulcinea — EQUAL Project	Training women for coordinating posts in construction
Spain	Gender Equality Observatory (Observatorio de la Mujer)	The Observatory prepares studies on gender impact in the military

Country	Programme	Issue
The Netherlands	Taskforce DeeltijdPlus (Part-time Plus) Dutch social partners and government (Ministry of Social Affairs and Employment) and local authorities	27 pilot studies to investigate barriers and opportunities to make the labour market more flexible for women. The objective of the taskforce is to stimulate women in the Netherlands who have part-time jobs of fewer than 24 hours a week to work more hours
United Kingdom	Single Equality Scheme for the Health and Safety Executive, 2010–2013	Identify sectors where women and/or men are at risk and ensure that example risk assessments for these areas include gender OSH issues To promote gender-specific messages about risks to health in the workplace on the website Address issues in relation to correct face-fit of respiratory protective equipment, particularly in relation to female face size/shape Research into the reported association of shift work and breast cancer and other major diseases Agriculture and food sector scoping study on respiratory disease in the bakery industry to include diversity issues of gender, age and race Research the risk of mesothelioma in females and males Continue research to estimate the occupational cancer burden in the United Kingdom, including breast and prostate cancer Encourage more involvement of women in health and safety decision-making

References

EU-OSHA (European Agency for Safety and Health at Work) (2003), Gender issues in safety and health at work: A review. Available at: http://osha.europa.eu/en/publications/reports/209

EU-OSHA (European Agency for Safety and Health at Work) (2005), *Noise in figures*. Available at: http://osha.europa.eu/en/publications/reports/6905723

EU-OSHA (European Agency for Safety and Health at Work) (2007), Literature study on migrant workers. Available at: http://osha.europa.eu/en/publications/literature_reviews/migrant_workers

EU-OSHA (European Agency for Safety and Health at Work) (2008), Protecting workers in hotels, restaurants and catering. Available at: http://osha.europa.eu/en/publications/reports/TE7007132ENC_horeca

EU-OSHA (European Agency for Safety and Health at Work) (2009a), Combined exposure to noise and ototoxic substances. Available at: http://osha.europa.eu/en/publications/literature_reviews/combined-exposure-to-noise-and-ototoxic-substances

EU-OSHA (European Agency for Safety and Health at Work) (2009b), *The occupational safety and health of cleaning workers*, European Risk Observatory Literature Review, Office for Official Publications of the European Communities, Luxembourg. Available at: http://osha.europa.eu/en/publications/literature_reviews/cleaning_workers_and_OSH

EU-OSHA (European Agency for Safety and Health at Work) (2010), *OSH in figures: Work-related musculoskeletal disorders in the EU – facts and figures*, European Risk Observatory Report, Luxembourg. Available at: https://osha.europa.eu/en/publications/reports/TERO09009ENC/view

EU-OSHA (European Agency for Safety and Health at Work) (2011a), OSH in figures: Occupational safety and health in the transport sector – an overview. Available at: https://osha.europa.eu/en/publications/reports/transport-sector_TERO10001ENC/view

EU-OSHA (European Agency for Safety and Health at Work) (2011b), Violence and harassment at work: A European picture. Available at: https://osha.europa.eu/en/publications/reports/violence-harassment-TERO09010ENC/view

EC (European Commission) (2002), Adapting to change in work and society: A new community strategy on health and safety at work 2002–2006, Brussels. Available at: http://www.lex.unict.it/eurolabor/en/documentation/com/2002/com(02)-118e.htm

EC (European Commission) (2010a), 'Men and gender equality: tackling gender segregated family roles and social care jobs', Analysis note. Retrieved date, from: ec.europa.eu/social/BlobServlet?docId=5532&langId=en

EC (European Commission) (2010b), 'Actions to implement the Strategy for Equality between Women and Men 2010–2015 accompanying the Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions Strategy for Equality between Women and Men 2010–2015, {COM(2010) 491}', Commission Staff Working Document. Available at: http://www.google.es/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CCwQFjAA&url=http%3A%2F%2Fec.europa.eu%2Fsocial%2FBlobServlet%3FdocId%3D5776%26langId%3Den&ei=crUoUty6M8jLtQaItICgDQ&usg=AFQjCNH4UDnIABMoESauxHZzmDzNQkht_w&bvm=bv.51773540,d.Yms

Eurofound (European Foundation for the Improvement of Living and Working Conditions) (2005), Biletta, I. & Meixner, M., EIRO thematic feature: Industrial relations and undeclared work. Available at: http://www.eurofound.europa.eu/publications/htmlfiles/ef05135.htm

Eurogip (2012), Statistical review of occupational injuries: Germany 2009–2010 data. Available at: http://www.eurogip.fr/en/docs/Eurogip_Point_stat_GER0910_71EN.pdf

European Parliament (2008), Resolution of 15 January 2008 on the Community strategy 2007–2012 on health and safety at work. Retrieved 16 August 2013 from

http://www.europarl.europa.eu/sides/getDoc.do?type=TA&reference=P6-TA-2008-0009&language=EN

Eurostat (2002), Dupré, D., 'The health and safety of men and women at work', *Statistics in Focus, 3–4/2002*. Available at: http://www.eds-destatis.de/en/downloads/sif/nk_02_04.pdf

Eurostat (2009), De Norre, B., '8.6% of workers in the EU experienced work-related health problems: The different sectors show distinct patterns of exposures to different risk factors, but in all sectors several risk factors are much more prevalent than on average.', Statistics in Focus, 63/2009. Retrieved 30 June 2009, from: http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-SF-09-063/EN/KS-SF-09-063-EN.PDF

Eurostat (2010), Health and safety at work in Europe (1999–2007): A statistical portrait, European Commission Employment, Social Affairs and Equal Opportunities, Eurostat. Retrieved 13 June 2013, from: http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-31-09-290/EN/KS-31-09-290-EN.PDF

Eurostat (2013) Gender pay gap statistics. Retrieved 20 July 2013, from: http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Gender_pay_gap_statistics

Leigh, J.P., & Du, J. (2012), 'Are low wages risk factors for hypertension', European Journal of Public Health, Vol. 22, No 6, pp. 854–859.

Mental Health Foundation (2007), Women and mental health. Retrieved 20 December 2010, from http://www.mhf.org.uk/information/mental-health-a-z/women/

Riedmann, A. & Fischer, G. (2007), *Undeclared work in the European Union*, Special Eurobarometer Report 284, TNS Opinion & Social, European Commission. Available at: http://ec.europa.eu/public_opinion/archives/ebs/ebs_284_en.pdf

SUMER (2003), Description and results. Available at: http://www.travail-solidarite.gouv.fr/etudes-recherche-statistiques-de,76/statistiques,78/sante-au-travail,87/enquetes,273/

Tieves, D. (2011), Women and occupational diseases in the European Union, ETUI. Available at: http://www.etui.org/Publications2/Reports/Women-and-occupational-diseases-in-the-European-Union

WHO (World Health Organization) (2009), *Women and health: Today's evidence, tomorrow's agenda*, Geneva. Available at: http://whqlibdoc.who.int/publications/2009/9789241563857_eng.pdf

TE-RO-13-003-EN-N

The European Agency for Safety and Health at Work (EU-OSHA) contributes to making Europe a safer, healthier and more productive place to work. The Agency researches, develops, and distributes reliable, balanced, and impartial safety and health information and organises pan-European awareness raising campaigns. Set up by the European Union in 1996 and based in Bilbao, Spain, the Agency brings together representatives from the European Commission, Member State governments, employers' and workers' organisations, as well as leading experts in each of the EU-27 Member States and beyond.

European Agency for Safety and Health at Work

Gran Vía 33, 48009 Bilbao, Spain
Tel. +34 944794360
Fax +34 944794383
E-mail: information@osha.europa.eu

http://osha.europa.eu

Publications Office