

# Workforce diversity and musculoskeletal disorders: review of facts and figures and examples

European Risk Observatory  
Executive Summary

Authors: Iñigo Isusi, Antonio Corral, Jessica Durán (IKEI), Jan de Kok, Jacqueline Snijders (Panteia), Tobias Bühring (Oxford Research), Maurizio Curtarelli (EU-OSHA)

Project management: Maurizio Curtarelli (EU-OSHA).

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## Introduction

- Musculoskeletal disorders (MSDs) are one of the most common work-related health problems in Europe, with important consequences for workers, businesses and society at large. MSDs can be defined as impairments of body tissues such as muscles, joints, tendons, ligaments, nerves, cartilage and bones and of the local blood circulation. If these MSDs are caused or aggravated primarily by work and by the effects of the immediate environment in which work is carried out, they are referred to as work-related MSDs.
- This research project investigates the extent to which the increasing diversity of the European workforce is associated with greater exposure to poor working conditions and health-related issues, with a specific focus on MSDs. The research project focuses on three specific groups of workers (women workers, migrant workers and lesbian, gay, bisexual, transgender and intersex (LGBTI) workers), who, according to existing evidence, are more likely to be in jobs (and sectors) associated with increased exposure to health and MSD risks, including psychosocial and organisational risks, often in a context of poor working conditions.
- The project involved an extensive review and analysis of the current evidence base, namely the international scientific literature and statistical data from several official sources, which informed the collection and analysis of primary data through fieldwork activities. Interviews with stakeholders and experts at EU and national levels and focus groups and interviews with workers from the three groups under scrutiny were carried out. Fieldwork findings complemented existing evidence.
- The project is part of a major research programme carried out by the European Agency for Safety and Health at Work (EU-OSHA) in 2018-2020 and focusing on work-related MSDs. Its outputs will also contribute to the subsequent Healthy Workplaces Campaign 2020-2022 on MSDs, which is coordinated across the EU Member States by EU-OSHA.

## A conceptual framework on work-related MSDs

- Work-related MSDs are associated with many different (combinations of) risk factors and may have several consequences for workers. Within the framework of this project, and based on the findings of a previous EU-OSHA research project on MSDs, a conceptual model of the interrelationships between risk factors, MSDs and their impacts has been developed and is presented graphically in Figure 1.
- According to this conceptual model, MSDs are associated with several types of risk factors, including sociodemographic and individual factors, physical risk factors, organisational and psychosocial risk factors, and occupation- and employment-related risk factors.

## Exposure to risks and prevalence of health and MSD-related problems

- The findings of this project show that the workers in the groups under investigation tend to be in poorer health (both physical and mental health) than other workers. Women workers report not only poorer self-perceived physical and mental health but also more limitations in their daily activities as a result of health problems and higher levels of absence from work for health reasons.
- The existing evidence and our fieldwork findings show that the three groups of workers of interest to us are more exposed than the general population to psychosocial and organisational risk factors in the workplace, namely harassment, discrimination, bullying and verbal abuse, temporary work, job insecurity, lower pay and limited career prospects, as well as to physical

risk factors such as carrying or moving heavy loads, repetitive movements, prolonged sitting and moving people, which are frequently associated to MSDs prevalence.

- The literature and existing data show that the prevalence of MSDs is higher among women and migrant workers. For instance, in 2015, 60 % of women workers in the EU who responded to the European Working Conditions Survey reported one or more MSDs. The most commonly reported ailment was backache, followed by muscle pains in shoulder, neck and/or upper limbs. The field research phase of our project revealed that this high incidence of MSDs among women workers is not widely appreciated by society as a whole.
- Migrant workers report poorer health than native workers, as well as more accidents at work, although in some countries this finding is confounded by the fact that many migrant workers are young and in good health (the so-called 'healthy migrant effect'). However, even young migrant workers often develop chronic health problems very quickly as a result of their poor working conditions and continuous exposure to risks, particularly physical risks. MSDs are also particularly prevalent among migrant workers, as demonstrated by both existing evidence and fieldwork findings. Descriptive and regression analyses conducted on several statistical sources show that migrants are more likely than native workers to report MSDs of all types.
- LGBTI workers report poorer physical and mental health compared with the general population, with specific subgroups (for instance transgender workers) reporting even worse health levels. The existing evidence, albeit limited, and our fieldwork findings show that LGBTI workers report more MSD-related problems, and the incidence of depression, suicidal thoughts, anxiety or self-harm is also higher in this group. Although our fieldwork findings were able to some extent to fill existing research gaps, more research is needed to better clarify MSDs prevalence among LGBTI workers.
- Most often these MSD-related risk factors are not present alone, but rather are found in combination, which in turn contributes to a higher likelihood of developing MSD-related problems. Exposure to these risk factors accumulates over time, increasing the probability of experiencing health problems, and MSDs in particular, especially at an older age.

## Exposure to physical risk factors

- There is conclusive evidence showing that women and migrant workers are particularly exposed to several physical risks that are often linked to particular tasks in the specific sectors and occupations in which these groups are more frequently present.
- Women workers are exposed to some physical risk factors in the workplace that are known to be directly related to the development of MSDs, such as lifting, handling or moving people, repetitive movements, adopting awkward, forced or tiring postures and prolonged static standing or sitting. These physical job demands are often underestimated by research and occupational safety and health (OSH) authorities, who tend to pay more attention to the heavy or physically demanding work activities required in male-dominated sectors.
- Migrant workers are particularly exposed to several physical risks at work, including those related to carrying or moving heavy loads, the adoption of forced, awkward or tiring postures and repetitive movements, as well as to environmental hazards (vibrations, temperature extremes, etc.).
- There is limited evidence relating to LGBTI workers' exposure to physical risks in the workplace. Nevertheless, the evidence that does exist suggests that such exposure is mostly related to the specific sectors and occupations in which these workers are most often to be found.

## Exposure to psychosocial and organisational risk factors

These physical risk factors can also be found in combination with a range of organisational and psychosocial risk factors, which can have important consequences for the health and well-being of workers, including MSDs.

- Taken together, the evidence we have collected shows that the workers in the three groups under scrutiny are exposed to a number of common risk factors stemming from poorer working conditions. These include lower wages/salaries, precarious forms of employment (e.g. in the case of women workers involuntary part-time employment, in the case of migrant workers irregular contracts or none at all, and in the case of all three groups temporary contracts), reduced career opportunities (the so-called 'glass-ceiling' issue facing women workers and LGBTI workers) and longer or unsociable working hours or overtime practices. Our fieldwork revealed that these risk factors negatively affect motivation, self-esteem and earning capacity (with knock-on effects on living conditions, diet, housing, etc.), causing more stress and fatigue. In addition, precarious jobs are associated with employers who place less value on OSH issues, putting these workers at increased risk of health problems in general and of MSDs in particular.

Existing evidence and our field research also revealed that the three groups under investigation are often exposed to negative experiences that include interpersonal discrimination, bullying, harassment, verbal abuse and physical violence, often exacerbated, in the case of women and transgender or intersex workers, by unwanted sexual attention and, in the case of LGBTI workers, by subtle verbal microaggressions in the form of jokes and mockery, glances, gossiping and negative comments. These experiences are associated with stress and declining mental health, are deleterious to general health and result in a higher likelihood of suffering from MSDs.

- All three groups include some individuals who are particularly disadvantaged as a result of the combination (intersectionality) of several individual and social factors (e.g. gender/sexual identity, race, physical appearance, geographical origin, class, level of education, etc.). Each of these combinations is associated with specific and unique disadvantages.

## Specific psychosocial and organisational risk factors for women workers

- Our field research revealed that women workers are particularly at risk, as a result of their dual role of worker and unpaid carer (of children or other family members and the home), to greater physical and psychological burden that can result in an increased risk of developing physical and mental health issues, including MSDs.
- Women workers are less likely than men to speak out about work-related health risks and to be heard, for a number of reasons, but principally because they are less represented than men on companies' OSH steering committees. This situation often results in a gender bias of the OSH measures adopted, to the detriment of women.
- Women workers are particularly exposed to high emotional demands and work-related mental load and stress associated with their employment segregation patterns.
- Our fieldwork also found a prevailing 'male-dominated' view of occupational diseases and OSH issues, and that this is harmful to women. For instance, OSH tools, protective personal equipment and workstations are often designed largely for men, and fail to take into account the physical characteristics of women's bodies.

## Specific psychosocial and organisational risk factors for migrant workers

- The field research showed that migrant workers frequently experience difficult working conditions either because they have no choice but to do.
- The fieldwork also found that migrant workers are frequently less familiar with the national regulations governing working conditions, in some cases attributable to language barriers.
- Migrant workers with limited knowledge of the local language are less well able to communicate and/or understand OSH-related instructions and work processes, and they may find it difficult to participate in OSH training activities or to fully understand their working rights. This leads in turn to misunderstandings, lack of compliance with OSH rules and more accidents and risky situations (e.g. failure to use helping tools or to wear protective equipment). This lack of knowledge makes them more vulnerable to discrimination and abusive practices that may not meet existing legal or OSH-related standards.
- Migrant workers are negatively affected by limited access to some specific public or private services such as suitable accommodation or health services, which affects both their general OSH situation and their working capability. Migrant workers are also reported to experience feelings of isolation as a consequence of a lack of social and family support networks, which may result in poor mental health and other health-related issues.
- A further factor affecting migrant workers' health that was uncovered by our fieldwork is that many companies fail to organise OSH activities aimed specifically at this group, not helped by the limited presence of migrant representatives on work councils.
- The fact that many migrant workers occupy a lowly position in the company hierarchy, combined with a higher incidence of precarious work and lower qualifications and skills, may explain why some employers place less importance on health and safety measures aimed at this group than on those targeting workers in critical or more responsible posts.

## Specific psychosocial and organisational risk factors for LGBTI workers

The field research revealed that LGBTI workers frequently face discrimination when searching or applying for a job, either being not hired at the end of the recruitment process or withdrawing from the process before the end for fear of not being accepted. Male recruiters tend to be more reluctant to hire LGBTI people. LGBTI workers are also more likely to be fired because of their sexual orientation or gender identity.

- Our field research confirmed, as is known from the existing evidence, that transgender workers are more exposed to discrimination practices, exclusion from recruitment opportunities, verbal abuse, violence and workplace bullying or poorer working conditions. In extreme cases, this can lead transgender workers to accept jobs with poorer working conditions and for which they are overqualified, as they find it difficult to get better jobs, more in line with their skills and qualifications.
- Lesbian workers face discrimination on two counts, that is, on the grounds of gender and sexual orientation. Among gay workers, effeminate men, are particularly likely to experience discrimination and harassment at work (especially in some male-dominated sectors) and are less likely to be socially accepted or promoted. Bisexual workers are also highly marginalised, resulting in discrimination and exclusion at work.
- LGBTI workers are more likely than other groups of workers, on average, to experience harassment and indirect discrimination at work. LGBTI workers frequently have to put up with multiple forms of subtle discrimination, such as jokes and mockery, glances, gossiping, etc.,

that contribute to a feeling of insecurity and even to self-isolation. Harassment can also take the form of aggressive exchanges and arguments with superiors, and can result in isolation of LGBTI workers in the workplace and ultimately even to premature exit from employment.

- A significant proportion of LGBTI workers conceal their sexuality or gender identity at work, usually because this is the only way to feel safe and to protect themselves, as well as a possible route to a better job or necessary to retain their current job. This represents a specific and additional psychosocial risk for LGBTI workers and may not only influence the sectors/occupations in which LGBTI individuals decide to work but also bring additional psychological burdens (with effects on their health).

## Employment segregation patterns

- Empirical evidence reveals employment segregation patterns among women and migrant workers, and to a more limited extent among LGBTI workers, indicating a higher presence of these groups of workers in some specific sectors and occupations characterised by greater exposure to MSD-related risks and higher prevalence of MSDs.
- Women are more frequently employed in tertiary sectors such as human health and social work activities, education, real estate, hotels and restaurants, cleaning and household activities, retail personal services such as beauty-related sectors (e.g. hairdressing), and in some manufacturing activities such as food processing or the textile industry). Women workers are also predominant in low-/medium-skilled occupations such as personal care workers; cleaners and assistants; general and keyboard clerks; health associate professionals; teaching professionals; health professionals and customer services clerks; food preparation assistants; and other clerical support workers and sales workers.
- Migrant workers are more likely than native workers to work in specific sectors/occupations labelled '3D' jobs (dirty, dangerous and demanding) because of the poor working conditions and increased OSH risks. Migrant workers are also more likely to work in some specific sectors such as agriculture; manufacturing, mining and energy; wholesale and retail trade; accommodation and food service activities; human health and social work activities; and construction. They are also more likely to get jobs in low or unskilled occupations, for example as cleaners and assistants; labourers; food preparation assistants; street and related sales and service workers; and refuse workers. Migrants are much less frequently employed in a number of medium-skilled roles including personal service workers, personal care workers, and building and related trades workers.
- Evidence on employment segregation patterns among LGBTI workers is limited. Nevertheless, the existing evidence and our fieldwork findings show that LGBTI workers are more frequently employed in sectors and occupations where they expect to feel safer and experience less intolerance and discrimination, so-called 'prejudice-based segregation'. This may result, in general, in a higher presence of gay and bisexual men in female-dominated sectors or occupations, and of lesbian workers in male-dominated sectors or occupations. Some of these sectors and occupations are associated with a higher prevalence of MSDs.

## Analysis of practices and policy initiatives

- As part of this research project, we identified and analysed in depth nine examples of policies or company practices in EU Member States aimed at improving the working environment and reducing OSH risks among the three groups of workers under investigation and in particular the physical and psychosocial or organisational risks associated with MSDs.



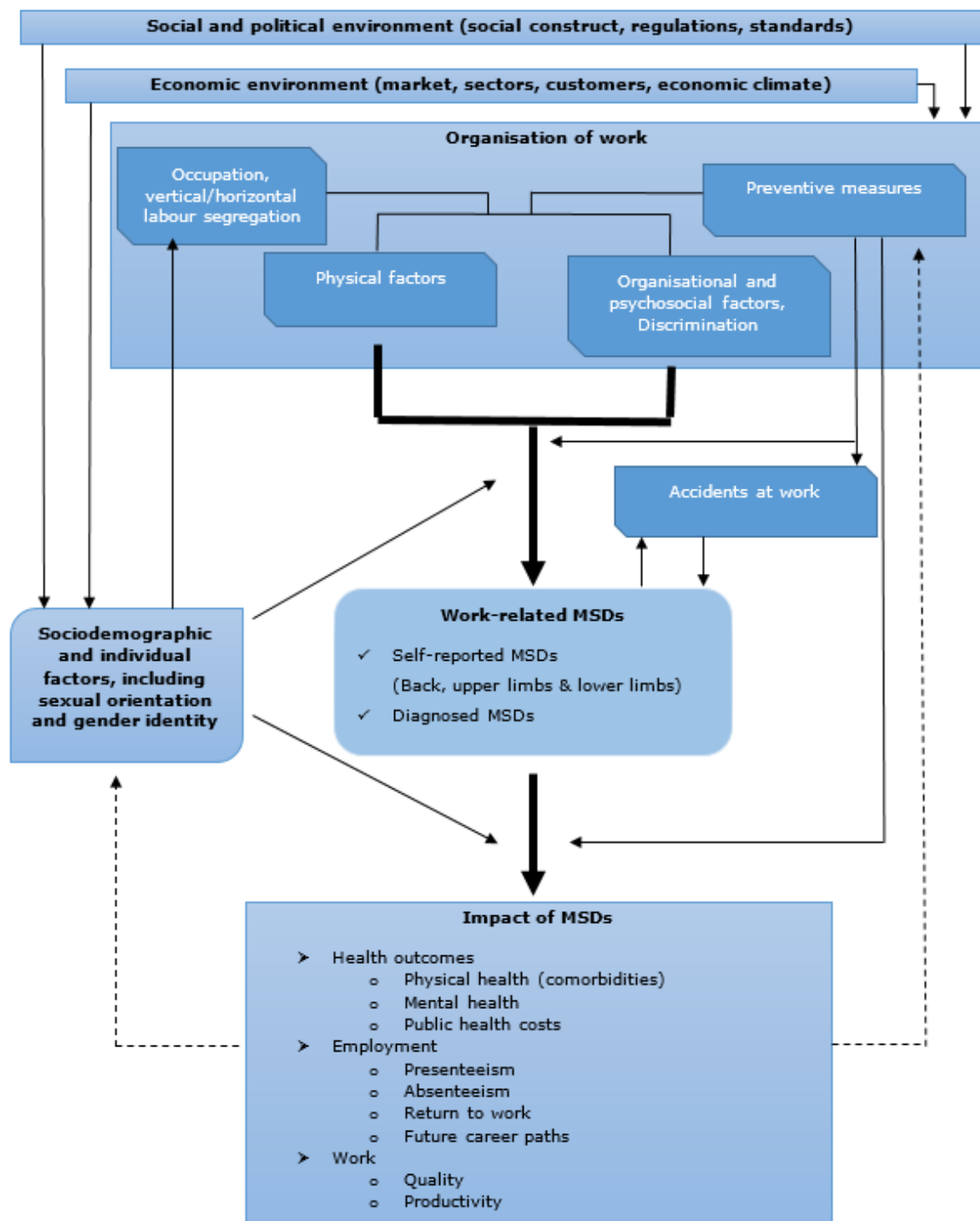
- The policies analysed are a mix of EU-level, national and regional initiatives implemented by public authorities, private and not-for-profit organisations and specifically targeting one or more of the three groups of workers of interest to us.
- The interventions vary widely and include risk assessment/prevention tools, awareness-raising activities, training, consultancy and guidance, research activities and specific labour inspection activities. The main characteristics and contents are summarised in Table 1.

## Policy pointers

In conclusion, and based on the findings of this research project, we have formulated some policy recommendations with the support of experts, summarised in brief below. The successful management of OSH issues and prevention of MSDs among an increasingly diverse European workforce requires both companies and public bodies to embed in their policies and practices interdisciplinarity, worker participation, awareness raising and prevention.

- *Increase interdisciplinary MSD-related research that takes into account workforce diversity issues*
- *Promote a 'diversity' perspective among public authorities and labour inspectorates*
- *Show companies the positive effects of employing a diverse workforce*
- *Build a culture of inclusion and zero tolerance of discrimination within companies*
- *Promote a participative approach to MSD prevention activities, giving voice to diverse groups within the workforce*
- *Raise awareness of, and promote, prevention activities among private companies, particularly those targeting specific groups of workers*
- *Develop ad hoc tools to manage a diverse workforce*
- *Develop a gender perspective in OSH-related public policies*
- *Improve working and health conditions in women-dominated sectors and occupations*
- *Treat work-life balance as an OSH issue*
- *Develop ergonomic and protective equipment specifically adapted for women*
- *Improve the access of migrant workers to appropriate health and labour public authorities and services*
- *Help migrant workers to adapt to the work culture of their host country, by providing information on labour and OSH issues, social rights and how they can access the labour market*
- *Help migrant workers to overcome language barriers*
- *Facilitate the recognition of educational/vocational qualifications obtained abroad*
- *Increase knowledge on the main work-related health risk factors that affect LGBTI workers and improve the visibility of this group*
- *Develop non-binary safety and health legislation and administrative procedures*
- *Develop LGBTI company policies that take into account the diverse realities of LGBTI workers's lives*

Figure 1: Theoretical framework of work-related MSDs



Source: EU-OSHA, *Work-related musculoskeletal disorders: prevalence, costs and demographics in the EU*, European Risk Observatory, 2019, adapted for this project.

**Table 1: List of analysed selected case studies**

| Name                                                                                          | Country | Target group                                       | Type of intervention                                                                                    | Responsible body                                       | Objectives/goals                                                                                                                                                                                                                                                                                         |
|-----------------------------------------------------------------------------------------------|---------|----------------------------------------------------|---------------------------------------------------------------------------------------------------------|--------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| National Strategy for the Work Environment                                                    | DK      | All                                                | Policy strategy, law enforcement, labour inspections, information and guidance, research                | Public authority                                       | To ensure a safe, secure and healthy work environment in Denmark, so that more workers can have a long and fulfilling working life. The three main priority areas of intervention are the psychosocial work environment, musculoskeletal overload and serious work accidents                             |
| Airbus Diversity and Inclusion policy                                                         | EU      | Women and LGBTI workers                            | Involvement of workers, training, awareness raising, conciliation and telework opportunities            | Private company                                        | To manage diversity, enforce equal opportunities and prevent discrimination within the company                                                                                                                                                                                                           |
| Shared Concerns and Joint Recommendations on migrant domestic and care work                   | EU      | Migrant workers                                    | Awareness raising                                                                                       | Different stakeholders including trade unions and NGOs | To raise awareness of and prevent poor working conditions, discrimination and limited access to social protection among migrant workers (both non-EU and EU mobile citizens) who work in domestic and care jobs                                                                                          |
| Risk assessment toolkit for third-country nationals                                           | IT      | Migrant workers                                    | Risk assessment/prevention toolkit                                                                      | Public authority in collaboration with social partners | To allow employers to comply with OSH legal requirements and carry out risk assessments for non-EU workers, and to promote specific OSH-related activities addressed to them                                                                                                                             |
| Diversity Policy at the Dutch Research Council (NWO)                                          | NL      | Women workers (but also LGBTI and migrant workers) | Finance support, support and guidance                                                                   | Public authority                                       | To reduce discrimination towards women in academia, fostering an inclusive and equal opportunities strategy. Current target group priorities also include other disadvantaged groups such as LGBTI workers, workers with a disability and non-EU migrant workers                                         |
| Business Network for LGBTI Diversity and Inclusion (REDI)                                     | ES      | LGBTI workers                                      | Consultancy and guidance, awareness raising, networking with relevant stakeholders, research activities | Not-for-profit association                             | To foster an inclusive and respectful environment in participating organisations, contributing to the social acceptance of LGBTI workers and the eradication of socio-cultural prejudices and discrimination practices that hinder the professional development and optimum performance of LGBTI workers |
| Toolkit for the Integration of the Gender Perspective in the Prevention of Occupational Risks | ES      | Women workers                                      | Risk assessment/prevention toolkit                                                                      | Public authority                                       | Developing an ad-hoc toolkit for introducing a gender perspective in OSH risk prevention activities, overcoming the 'man prototype' point of view prevailing in the existing Spanish OSH risk prevention patterns                                                                                        |

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| Name                                       | Country | Target group  | Type of intervention                                                                  | Responsible body | Objectives/goals                                                                                                                                                                                         |
|--------------------------------------------|---------|---------------|---------------------------------------------------------------------------------------|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Women's Work Environment                   | SE      | Women workers | Awareness raising, research, labour inspections, development of risk assessment tools | Public authority | To improve women's work environment, with a focus on MSD risks. The initiative includes research into women's OSH, new ways of conducting labour inspections and a set of different tools for workplaces |
| <i>Transgender Workplace Support Guide</i> | UK      | LGBTI workers | Research, guidance                                                                    | Public authority | To facilitate a successful integration of transgender workers in workplaces by providing useful information and guidance for different stakeholders                                                      |

Source: authors' elaboration.

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**European Agency for Safety and Health at Work**

Santiago de Compostela 12, 5th floor  
48003 Bilbao, Spain  
Tel. +34 944358400  
Fax +34 944358401  
E-mail: [information@osha.europa.eu](mailto:information@osha.europa.eu)

<http://osha.europa.eu>



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