

# Musculoskeletal health and risk factors in the health and social care sector – a review of existing information

## Summary

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## Executive Summary

### Context and objectives

- Musculoskeletal disorders (MSDs) are the most prevalent occupational health issues in the human health and social care (HeSCare) sector, affecting millions of workers and contributing to absenteeism, reduced productivity and high healthcare costs. The HeSCare sector includes healthcare, residential care and social work activities. The report provides an in-depth, cross-national overview of key musculoskeletal (MSK) risk factors and MSD health outcomes, sector-specific challenges, and evidence-based policy guidance to prevent and manage MSDs. The objectives are to:
  - provide a comprehensive overview of occupational safety and health (OSH) in the HeSCare sector, focusing on prevalent MSK risk factors and related health outcomes (acute and chronic);
  - raise awareness of existing and emerging MSD risks, highlighting those unique to the HeSCare sector or with sector-specific impacts;
  - support risk prevention and the promotion of good MSK health at work by:
    - enhancing knowledge,
    - sharing good practices and tools, and
    - promoting a proactive health and safety culture at the workplace;
  - offer policymakers, social partners, OSH professionals and researchers cross-national insights into OSH and MSD issues in the sector;
  - identify research gaps related to MSD risk factors and health in HeSCare; and
  - provide input to the European Agency for Safety and Health at Work (EU-OSHA) Healthy Workplaces Campaigns (HWC) on Digitalisation (HWC 2023-2025) and Mental Health at Work (HWC 2026-2028).
- In addition to the report, eight standalone case studies have been developed that provide concrete examples of strategies, initiatives, approaches, methods and practical tools to address MSK risk factors in the HeSCare sector. A policy brief including a summary of the research findings as well as the policy pointers has also been developed.

### Main MSK risk factors/MSD health outcomes in the HeSCare sector

This study presents several of the most relevant risk factors contributing to MSDs and MSD health outcomes within the HeSCare sector. These risk factors have been prioritised for further study due to their prevalence, severity and impact on workers' health and the operational effectiveness of care facilities. The selection is informed by sector-specific data, research findings and interviews with stakeholders, focusing on the multifaceted challenges posed by physical, psychosocial and organisational demands.

#### High workload and organisation of working time

- Chronic staff shortages and high patient demands increase physical and mental workload, elevating the risk of developing MSDs.
- Irregular shifts and night work disrupt sleep cycles and recovery time, exacerbating fatigue and risk of injury.
- Digitalisation intensifies work pace and reduces autonomy, compounding stress and physical strain.
- Poor work organisation (for example, unclear roles, lack of participatory management) adds to physical and psychosocial risks.
- Participatory approaches and quality of life at work (QWL) initiatives can improve working conditions and reduce the risk of developing MSDs.
- Open dialogue across organisational levels fosters shared solutions and a prevention-focused workplace culture.

## Manual handling of patients

- Lifting, repositioning and assisting patients — especially those with obesity or complex care needs — places heavy strain on workers, especially the lower back and shoulders.
- Residential care workers, older workers or staff already suffering from MSDs are at particularly high risk due to the intensity and frequency of handling tasks.
- Underuse of assistive devices due to time pressure, lack of awareness or insufficient training heightens exposure.
- Safe patient handling and mobility (SPHM) programmes, tailored training and ergonomic equipment are proven to reduce injury rates.
- A shift in the care culture, for example, by promoting patient autonomy, can reduce manual handling demands and improve outcomes for both workers and patients.

## Repetitive hand or arm movements

- Increasing exposure to repetitive tasks (for example, in nursing, surgery or dentistry) is a major contributor to upper limb MSDs.
- Repetition, combined with awkward postures and forceful exertions, leads to fatigue, muscle strain and long-term injury.
- Digital tasks (for example, electronic recordkeeping) add to cumulative strain, especially when performed in poor ergonomic conditions.
- Prevention requires ergonomic workstations, proper body mechanics training, and structured task rotation or redesign.
- Organisational changes (for example, rest breaks or job diversity) are essential to reduce long-term exposure and support recovery.

## Working posture/awkward positions

- Frequent bending, twisting and static postures (for example, during surgery or patient care) are strongly linked to the development of MSDs such as back, neck and shoulder pain.
- Nurses, dentists, surgeons and physical therapists are at particular risk due to prolonged or repetitive awkward positions.
- Risks are heightened for younger trainees and older female workers, reflecting a combination of physical and demographic characteristics.
- Solutions include ergonomic workstation design, adjustable equipment, task variation and work processes designed to keep workers' bodies in healthy positions, reducing strain and preventing injury.
- Training and awareness must be embedded into organisational practices to sustain healthy posture habits.

## Poorly designed environments and inadequate equipment

- Inadequate workstation layouts and poor ergonomic design are major contributors to physical strain and the development of MSDs.
- Cramped or inefficient care settings force workers into awkward postures and increase physical exertion.
- Participatory approaches — engaging staff in identifying risks and designing improvements — enhance success and compliance.
- Ergonomic interventions (for example, the use of trolleys or adjustable beds or space optimisation) reduce injury, improve care quality and lower absenteeism.
- Investment in ergonomic design brings long-term returns through better staff retention, job satisfaction and care outcomes.

## *Inadequate training*

- Lack of comprehensive training on ergonomics and patient handling increases risk of poor posture, incorrect lifting and repetitive strain injuries.
- Generic or minimal training is ineffective; programmes must be job-specific, context-aware and practically focused.
- Best practice includes multidisciplinary, interactive and long-term training models (for example, Finland's Patient Handling Card,<sup>1</sup> Germany's Ergo Coach<sup>2</sup>).
- Digital platforms can improve access for home care workers and support self-paced, engaging learning.
- Sustained organisational support, leadership involvement and availability of ergonomic equipment are key to long-term success.

## *Lack of workplace age management strategies (ageing workforce)*

- Long-term exposure to physical and psychosocial risks increases the likelihood of developing chronic MSDs, especially in physically demanding roles.
- Older workers (50+) face higher risks due to declining physical capacity and cumulative strain from years of care work.
- Extending working lives without supportive measures may worsen MSD health outcomes and accelerate workforce attrition.
- Age-sensitive strategies, for example, task adaptation, ergonomic support and flexible scheduling, are crucial to protect older workers' health.
- Gender-sensitive approaches are especially needed to address the specific characteristics of older female workers in care roles.

## *Psychosocial risks (focus on violence and harassment)*

- Violence and harassment — especially from patients or their families — are highly prevalent in HeSCare and linked to the development of MSDs via stress and muscle tension.
- Emotional demands, poor communication, high workloads and lack of support heighten exposure to psychosocial risks.
- Frontline staff, women, migrant workers and home care professionals face disproportionate exposure to verbal, physical and sexual harassment.
- The COVID-19 pandemic amplified aggression toward healthcare workers and worsened existing stressors.
- Prevention requires strong management commitment, risk assessments, tailored interventions, reporting systems and skill-building training — not just violence-specific instruction.

## *Working with MSDs (back, upper & lower limb pain)*

- A significant portion of HeSCare workers continue working while experiencing pain.
- Persisting with physically demanding work aggravates injuries, increases absenteeism and heightens the risk of permanent disability.
- Women, older workers and migrants are more likely to suffer and less likely to receive adequate support or accommodations.
- Psychosocial stressors and poor work organisation further undermine recovery and exacerbate pain conditions.
- Effective support includes ergonomic adaptations, job rotation, flexible scheduling and fostering an inclusive, recovery-oriented workplace culture.

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<sup>1</sup> For more information, please see: <https://osha.europa.eu/en/publications/alm-approach-preventing-musculoskeletal-risks-during-patient-handling-and-transfer>

<sup>2</sup> For more information, please see: <https://osha.europa.eu/en/publications/establishing-ergonomic-and-back-friendly-working-practices-organisations-bgw-ergo-coach-programme>

## Policy pointers

- To effectively prevent and address the MSK risks and related health outcomes identified in this study, a coordinated effort across multiple policy areas is essential. While MSK risks are a core OSH concern, their root causes and solutions extend beyond the traditional OSH remit.
- Robust measures are needed to uphold the right of HeSCare workers to a high level of protection for their health and safety at work — particularly in relation to MSK risks.
- Develop and disseminate EU-level MSD prevention guidelines for HeSCare that include ergonomic standards, safe patient handling protocols, validated risk assessment tools (for example, Rapid Upper Limb Assessment Tool (RULA) and Movement and Assistance of Hospital Patients (MAPO)), and practical implementation examples adapted to care settings.
- Mainstream MSD and OSH strategies into EU employment and ageing workforce policies, adopting a life-course approach. Align with EU-OSHA guidance on reasonable accommodation and the Disability Employment Package to promote sustainable, inclusive work in HeSCare.
- Support retention through EU-backed early intervention and return-to-work systems. Promote knowledge exchange and co-fund national rehabilitation pathways to address the high cost of sickness absence and prevent premature workforce exits.
- Invest in research, innovation and data collection on MSDs. Fund pilot programmes for emerging ergonomic technologies and develop tools to monitor physical workload and strain, especially in high-risk groups like older, female and migrant workers.
- Ensure national OSH strategies, social partner actions and workplace-level policies address both physical and psychosocial risks. This includes workforce planning, training frameworks, ergonomic investments, inclusive OSH committees and cultural shifts in care practices.
- Embed MSD prevention into workplace structures through comprehensive training, worker involvement and inclusive job design. Promote participatory approaches, role-specific ergonomics training, and flexible work adaptations for ageing or injured workers.

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