European Agency for Safety and Health at Work

Residential care workers: a comprehensive overview of occupational safety and health

Report

European Agency for Safety and Health at Work

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This report was commissioned by the European Agency for Safety and Health at Work (EU-OSHA). Its contents, including any opinions and/or conclusions expressed here, are those of the authors alone and do not necessarily reflect the views of EU-OSHA.

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Luxembourg: Publications Office of the European Union, 2026

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PDF Web | ISBN 978-92-9402-470-1 | doi:10.2802/1735002 | TE-01-26-007-EN-N

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Executive summary

This report focuses on the occupational safety and health (OSH) of workers in the residential care sector. The study forms part of a broader research initiative carried out by the European Agency for Safety and Health at Work (EU-OSHA) in the health and social care (HeSCare) sector (EU-OSHA, n.d.). It explores current evidence on the most prevalent OSH risks and health and safety outcomes faced by residential care workers, and to identify relevant strategies and interventions for OSH risk management and prevention in residential settings.

The study is based on a mixed-methods approach. It integrates an extensive review of research literature, the analysis of recent data from the European Survey of Enterprises on New and Emerging Risks (ESENER 2024) and the European Working Conditions Survey (EWCS 2024), and field research through interviews with relevant stakeholders and the identification of good practices. Some relevant examples have been developed as case studies (published as stand-alone documents and linked[1] in the report).

- **Residential care sector**

Residential care work involves providing personal and care services in non-hospital residential settings for older people and dependent adults. The sector encompasses a variety of establishments, such as nursing homes for older people and residential facilities for dependent individuals and people with mental health issues or disabilities. A large proportion of residents require long-term care (LTC) services, either in day facilities or permanent facilities. The residential care workforce mainly consists of nursing professionals, nursing associate professionals and healthcare assistants, with notable variations in job profiles and education levels across Member States.

- **Main structural features**

The residential care sector is facing structural challenges that directly affect the working conditions and OSH of its workforce. Chronic understaffing remains a pervasive problem, largely driven by factors such as demanding work environments, low wages and limited career progression opportunities, which result in recruitment and retention issues in many establishments. Public funding constraints, coupled with broader trends towards privatisation and marketisation of LTC services and the growing presence of private for-profit providers, can often culminate in the adoption of cost-cutting measures. These measures give rise to inadequate staffing ratios and limited investment in OSH preventive strategies, further reinforcing the undervaluation of care work and diminishing the sector's attractiveness. Moreover, changes in work organisation have led to a growing reliance on lower-qualified roles for direct care work, while increasing nurses' supervisory roles and responsibilities.

This study has identified initiatives that address the residential care sector's structural challenges. They reflect an increasing awareness of the need to improve working conditions and professionalisation, to ensure the sustainability of the residential care workforce, and to guarantee the quality and safety of LTC in the EU. Key examples presented in the report include enhancing training and career pathways to increase the professional status and appeal of residential care work. Some Member States have established minimum structural requirements, like Finland's statutory staff ratios, to enhance the quality of care and working conditions. Collective bargaining and social dialogue at different levels play a pivotal role in efforts to improve working conditions in the sector. Relevant examples include extending

[1] See:
EasyMAPO tool for safer resident handling in care homes, available at: https://osha.europa.eu/en/publications/easymapo-tool-safer-resident-handling-care-homes
Germany's emergency programme for carers: strengthening occupational safety and staff retention, available at: https://osha.europa.eu/en/publications/germanys-emergency-programme-carers-strengthening-occupational-safety-and-staff-retention
Evaluating working conditions in residential care: a participatory approach from Poland, available at: https://osha.europa.eu/en/publications/evaluating-working-conditions-residential-care-participatory-approach-poland
Staffing ratios in Finnish residential care: implications for safe and healthy work, available at: https://osha.europa.eu/en/publications/staffing-ratios-finnish-residential-care-implications-safe-and-healthy-work
Your rights, the best medicine: union campaign to reduce psychotropic drugs in residential care, available at: https://osha.europa.eu/en/publications/your-rights-best-medicine-union-campaign-reduce-psychotropic-drugs-residential-care
Preventing risks in nursing homes through safer design and renovation, available at: https://osha.europa.eu/en/publications/preventing-risks-nursing-homes-through-safer-design-and-renovation

coverage of binding collective pay standards, improved wages, and minimum staffing ratios and qualification levels.

- **Main safety and health issues and OSH risks**

Recent survey evidence shows that residential care workers face a highly demanding physical and psychosocial work environment. In the HeSCare sector, they are the workers who perceive the most substantial negative impact of their work on their health status. Compared with other LTC settings, residential care work involves assisting patients with more complex and chronic conditions than those who receive care at home. Such conditions include physical dependencies, cognitive impairments and behavioural challenges, which result in increased physical and emotional strain.

Overall, musculoskeletal disorders (MSDs) remain the most common OSH issue in residential care settings. They are primarily attributed to the frequency and intensity of manual handling and transfers of dependent residents, which are often carried out without the use of technical aids. Studies show that tasks such as lifting and repositioning residents frequently exceed recommended safe biomechanical limits, leading to overexertion and an increased risk of injuries, especially to the back, neck and shoulders. The impact of exposure to highly demanding physical tasks is further compounded by organisational factors, such as understaffing and inadequate ergonomics in the workplace. Psychosocial risks (PSRs), such as time pressure and effort-reward imbalances, exacerbate the impact of physical strain, highlighting the need for integrated interventions that address both physical and psychosocial risk factors. Research highlights the effectiveness of assistive equipment in reducing MSDs and work-related injuries. However, many workers do not make proper use of equipment despite its availability, mostly due to time constraints. The use of lifting devices like ceiling hoists takes considerable time as residents must be positioned properly, which can be challenging in understaffed environments where workers face high workloads and time pressure. Additionally, workers may perceive less demanding tasks, such as repositioning or turning residents, as not requiring assistive devices and may instead rely on assistance from colleagues or manual handling.

The study provides evidence of a significantly higher prevalence of work-related accidents in the residential care sector than in other sectors. These accidents primarily stem from manual handling of residents. The severity of work-related accidents and MSDs is reflected in high sickness absence rates. Presenteeism, or working with pain, is also a prevalent issue, linked to understaffing and high workload. Studies show that psychosocial factors, such as low social support and high job demands, increase presenteeism rates, which in turn predict future disability.

The psychosocial work environment in residential care is characterised by high quantitative demands, time constraints and emotionally demanding work. Understaffing and evolving roles have resulted in excessive workloads and time pressure, contributing to job dissatisfaction, emotional exhaustion and turnover intentions. These factors, and complex interactions with residents and relatives, may also lead to work-related stress and burnout, which are significant challenges. The present study reveals growing awareness and concerns about the prevalence of mental health issues and PSR factors amidst the current recruitment and retention crisis in the residential care sector.

Research in the field highlights that the prevalence of mental health issues in the sector is largely attributable to organisational factors, such as job strain, low social support and the experience of work-life conflict, which negatively affect workers' feelings of personal accomplishment. Excessive workloads and time pressures often lead to moral distress and role conflicts when workers are unable to provide care aligned with professional and ethical standards. Low job control, poor social support from supervisors and colleagues, and effort-reward imbalances further intensify workers' emotional exhaustion and turnover intentions. Working time patterns characterised by irregular and unpredictable schedules, long shifts and reduced breaks present a significant burden, given the predominantly female workforce with caring responsibilities. High emotional demands stemming from the complex clinical conditions of the resident population, including exposure to aggressive behaviours of residents or their relatives, also have a significant impact on residential care workers' mental health and well-being. Staffing adequacy and managerial support are factors that influence the prevalence and management of the risk of aggression, highlighting the relevance of comprehensive organisational interventions to improve workers' well-being and quality of care.

The report identifies chemical, biological and physical risks as significant occupational hazards in residential care settings. The report notes limited research on these risks compared with musculoskeletal (MSK) and psychosocial hazards but emphasises their importance. The Covid-19 pandemic underscored the critical need for effective sanitary measures and preparedness in residential care facilities to mitigate biological risks.

- **Risk prevention and management strategies at the workplace level**

The study identified organisational and individual strategies for OSH risk prevention and management in residential care settings. Organisational interventions involve changes in work organisation practices to reduce risk exposure at its source. Individual interventions aim to improve workers' ability to deal with OSH risks through training programmes and the promotion of safety behaviours and skills.

Organisational interventions include the implementation of innovative care models and facility designs that promote more supportive work environments, along with enhanced quality of care. Small-scale, homelike living facilities that promote resident autonomy and integrate domestic and social roles for care workers have been shown to enhance job autonomy and reduce time pressure, though emotional demands may increase. Person-centred care (PCC) models further improve worker well-being by emphasising individualised care, shared decision-making and ethical alignment, all of which have positive impacts on reducing work-related stress and burnout.

Relevant strategies for work organisation practices focus on improving social support and work-life balance. The promotion of effective teamwork and supportive management can contribute to increasing workers' satisfaction with their job and retention. The adoption of self-managed multidisciplinary teams offers increased autonomy on the job. Other relevant interventions include restructuring of work schedules into longer shifts with improved rest times, adopting flexible individualised scheduling, and providing family support services such as on-site childcare. Individual-focused strategies commonly involve programmes aimed at improving workers' coping skills, emotional regulation and management of challenging resident behaviours, with evidence supporting improvements in self-efficacy and reduced stress, although long-term effectiveness varies.

Preventive measures addressing MSK risks emphasise the use of assistive handling devices, particularly ceiling lifts, combined with comprehensive training and safe patient handling protocols, which significantly reduce work-related injuries and associated costs. Integration of ergonomic principles into facility design and renovation further supports risk reduction by improving workspace conditions and equipment accessibility. Individual-focused interventions include ergonomic training, proper use of assistive equipment and physical conditioning programmes that help reduce MSK pain and injury rates.

Interventions targeting physical, chemical and biological risks remain largely under-researched but gained attention during the Covid-19 pandemic, with a focus on hygiene adherence and vaccination policies. Return-to-work policies and health literacy programmes also support worker reintegration and pain management. Overall, evidence suggests that comprehensive, participatory approaches combining individual skill development with organisational improvements yield the most sustainable benefits for OSH in residential care settings.

1 Introduction

Health and social care (HeSCare) is among the sectors with the highest employment growth since the 2000s. It has the greatest expectations for future demands due to population ageing (EU-OSHA, 2024b). The HeSCare sector comprises healthcare (NACE 86), residential care (NACE 87) and social work (NACE 88).

This study focuses on the occupational safety and health (OSH) of workers in the residential care sector. It is part of a major research initiative carried out by EU-OSHA in the HeSCare sector (EU-OSHA, n.d.). The study aims to explore current evidence on the most prevalent OSH risks and safety and health outcomes faced by residential care workers, and to identify relevant strategies and interventions for OSH risk management and prevention in residential settings.

The specific objectives of the study are to:

- answer the general question of what the current and emerging OSH risks and issues for residential workers are, and how these issues affect their OSH and influence the overall service that they provide;
- provide a broad-focus scoping study to identify the most salient issues in OSH in the residential care sector, with the aim of guiding OSH risk prevention, the adoption of policy measures and future research;
- provide and develop new knowledge or information on the most prevalent risk factors as well as safety and health outcomes in the sector;
- increase the visibility and awareness of new and emerging risks;
- equip policy-makers, social partners, OSH practitioners and researchers with a better understanding and comprehensive, cross-national insight into the state-of-the-art of residential care services relating to OSH in general;
- contribute to identifying gaps in research in the OSH of residential care workers;
- provide data and information to support the preparation of the forthcoming European-wide Healthy Workplaces Campaign (HWC) Together for Mental Health at Work (HWC 2026-2028).

To achieve the above objectives, the study identified a set of research questions grouped into three main research topics:

1. What are the main structural features of the residential care sector in the EU that have a direct or indirect impact on the safety and health of residential care workers? What are the most important variations across countries?
2. What are the most prevalent safety and health issues and OSH risks in the residential care sector? What are the main groups of residential care workers affected?
3. What initiatives and good practices have been implemented at sectoral, national, EU or international level to improve employment and/or working conditions, or more specifically, the safety and health of residential care workers? What approaches and good practice preventive interventions have been implemented at the workplace level to improve the safety and health of residential care workers?

- **Methodological approach**

The study relies on a mixed-methods approach, encompassing desk research, statistical analysis, interviews and case studies.

Firstly, a scoping literature review was conducted to provide an overview of the current state of research evidence on OSH risks and preventive strategies in the residential care sector. An initial set of search queries was defined, based on relevant keywords and eligibility criteria applied to scholarly and scientific research databases (PubMed, Scopus and Web of Science). In addition to academic literature, the desk research was expanded to cover grey literature publications by relevant stakeholders, including research reports and statements from EU-level social partners and other European and national institutions.

The process of screening and analysing the references included in the report was facilitated by reference management software Zotero and the AI-assisted research tool Elicit, to enable the examination of a large number of publications. The first results of the search strategy resulted in an initial pool of more than 20,000 documents, many outside the research focus. To address this issue while minimising the risk of excluding relevant references, an initial screening was performed using bibliometric modelling techniques (BERTopic) that cluster relevant sources by themes derived from titles and abstracts. This analysis narrowed the selection to 1,069 articles grouped into thematic areas aligned with the research questions. A substantial number of references were finally excluded because they fell outside the geographical scope or the research focus.

Elicit AI software simplifies the process of extracting data from publications based on various categories and criteria established by the research team. A significant aspect of this tool is its capability to let users verify the accuracy and dependability of the extracted data by providing direct access to the original text. This ensures that researchers stay actively engaged throughout the analysis.

To finalise the inputs for the literature review and steer the search for examples of best practices, the methodology was enhanced to include interviews with key stakeholders in the residential care sector. These interviews served a dual purpose. Initially, a series of exploratory interviews was held with representatives from various EU-level institutions, agencies and social partner organisations. These discussions provided valuable insights into the sector's overall trends, the prevalence of OSH risks, and strategies for risk prevention and management. Interviewees were also asked to suggest additional contacts for potential interviewees involved in initiatives that could serve as examples of good practices. Subsequently, another set of interviews concentrated on representatives from organisations and institutions directly engaged in the initiatives identified as good practices. Table 1 presents the total number of interviews conducted in the study.

EU-OSHA facilitated data from ESENER 2024 to further enrich the analysis. In addition, a multivariable analysis of EWCS 2024 was carried out. This survey was used to explore the health outcomes and OSH risks of residential care workers. The survey includes a question on how work impacts health (positively, negatively or no impact). The answer 'negatively' was used to identify work-related health issues. Eurofound includes in the survey a well-established set of questions that allow an analysis of the quality of working conditions across seven domains (physical environment, social environment, working time, work intensity, skills and discretion, prospects, and earnings). In each domain, the most relevant questions were used as a proxy for OSH risks. The analysis was carried out for workers in International Standard Code of Occupations groups ISCO 2, ISCO 3 and ISCO 5. These ISCO groups encompass the 'core' occupations in residential care work: nursing professionals, nursing associate professionals and healthcare assistants (or personal care workers). While the report includes the main findings, the statistical appendix provides full details.

Table 1: Interviews with stakeholders

Stakeholder category	Organisation
EU-level institutions and agencies	Eurofound
Social partners and organisations representing the sector at EU level	European Public Services Union (EPSU) Federation of European Social Employers UNI Europa
Social partners and organisations representing the sector at national level	Institute of Labour and Social Affairs (Poland) and member of the European Social Policy Analysis Network (ESPAN) on LTC in Poland and Europe Care Workers' Trade Union EMEIS Polska (Poland) and Central European Organising Centre National Federation of Social Workers and Social Service Employees (Poland) Federation of Health and Social Care Sectors of Workers' Commissions (FSS-CCOO) (Spain) Trade Union for Practical Nurses (SuPer) (Finland) Representative of public sector employer (Finland) United Services Union (Ver.di) – Healthcare Policy Division, Care for the Elderly (Germany) Inter-Company Trade Union Organisation of Care Workers (OPZZ, Polish Confederation of Trade Unions) at Leon Szuman Nursing Home in Toruń (Poland) Company representatives from L'Hesperie Nursing Home (France) Navarra Institute of Public and Occupational Health (ISPLN/NOPLOI) (Spain) National Federation of Associations of Managers and Services for Elderly People (FNADEPA) (France) L'Éffet Prévention – CARSAT Aquitaine (France)

Overview and structure of the report

Following this general introduction to the report, Chapter 2 presents a general overview of the scope and structural features of residential care work across the EU. Residential care work involves the provision of health and personal care services in non-hospital settings to diverse populations, including older people, adults with disabilities, and individuals facing mental health or substance abuse challenges. The sector's workforce is primarily formed by professionally trained nurses and healthcare assistants, whose roles and education levels vary significantly across countries. The chapter further examines general trends impacting the working conditions and OSH of residential care workers. It emphasises the sector's steady employment growth in the context of population ageing. It also highlights the implications of the 'quadrilemma' faced by policy-makers, resulting from the need to balance conflicting demands for expanding LTC coverage while ensuring quality of service delivery within public budget limitations. This often leads to worsened working conditions and OSH for care workers. Chronic understaffing of residential care settings emerges as a critical challenge, compounded by low wages, demanding work

environments and increasing privatisation, which often prioritises cost-cutting over worker protection. Chapter 2 concludes by presenting national and EU-level initiatives to tackle these structural challenges. It outlines the efforts of Member States to improve the sector's working conditions and professionalisation, along with other OSH-targeted measures to address the current recruitment and retention crisis in the sector.

Chapter 3 focuses on the OSH risks and health outcomes experienced by residential care workers. Firstly, it provides an overview of the OSH risk exposure and health status of this group of workers compared with other HeSCare subsectors, based on recent survey data from ESENER and EWCS. The analysis highlights notably adverse effects on residential care workers' health due to combined exposure to a highly demanding physical and psychosocial work environment. The chapter examines existing research evidence on the OSH risks and outcomes of residential care workers, structured around the main categories of risk. It details the high exposure of residential care workers to MSK risks, PSRs, such as excessive workloads, time pressure and emotional demands, and physical hazards, including slips, trips and falls. The chapter further summarises research findings on specific health outcomes, focusing on mental health issues such as stress, burnout and depression, as well as MSDs and work-related accidents and injuries. The section also discusses the prevalence of presenteeism and absenteeism, revealing the sector's high rates of work-related injuries and psychological strain. It illustrates how organisational factors like understaffing, low wages, demanding work environments and misuse of assistive equipment contribute to the high prevalence of OSH issues in the residential care sector.

Chapter 4 addresses risk prevention and management strategies at the workplace level. First, the chapter presents an overview of risk assessment practices and procedures in the residential care sector. Then, it explores interventions that target risk factors and related health outcomes, including MSK risks, PSRs, and physical, biological and chemical risks. These initiatives are classified into organisational and individual strategies, with relevant examples of practical interventions from different EU Member States. Emphasis is placed on the combination of changes in work organisation practices and how care is delivered, together with training on coping skills, ergonomic and safe patient handling techniques to enhance workers' OSH and improve the quality of care in residential settings.

Finally, the report sets out conclusions and policy pointers. These conclusions are firmly grounded in the evidence presented and contain a selection of policy pointers to improve the safety and health of residential care workers.

2 Residential care work: scope and structural issues

This chapter aims to define the scope of the study and describe the main structural issues in residential care work across EU Member States. The first section provides a comprehensive description of the main activities and occupational profiles involved in the provision of residential care services. The second section examines the key structural features and trends in the provision of residential care services, focusing on their impact on employment and working conditions, to identify the main implications for the OSH of residential care workers. The third section identifies initiatives adopted at the national and EU levels to address structural challenges and improve employment and working conditions, or more specifically, the safety and health of residential care workers, at the national and EU levels.

2.1 Scope: sectoral and occupational definitions

Residential care work refers to health and personal care services provided in residential settings (other than hospitals). The mix of care services depends on the specific needs of residents, who may be older people, adults with physical or learning disabilities, adults with physical or mental illnesses or other issues such as substance abuse. Facilities are a significant part of residential care services, and the care provided includes a combination of healthcare (mainly nursing care) and personal care (supervision and assistance with mobility and activities of daily living, such as dressing, feeding, washing and toileting, and getting in or out of bed). While people with short-term illnesses or transitory health issues may require short-term care, a large part of residents need long-term care (LTC), either in day facilities or permanent facilities.

Within residential care, there are three main distinct subsectors. Residential nursing care activities (NACE 87.1) encompass care services provided in homes for older people, convalescent homes, rest homes with nursing care, nursing care facilities and nursing homes. Residential care activities include the provision of residential care (but not licensed hospital care) for people with intellectual disability, mental illness or substance abuse problems (NACE 87.2) as well as the provision of residential and personal care services for older people and people with disabilities who are unable to fully care for themselves and/or who do not desire to live independently (NACE 87.3). Residential care activities that do not come under the above subsectors are classified as ‘other’ (NACE 87.4).

In terms of occupation, most residential care workers are either nurses or personal care workers (ILO, 2018; OECD, 2023). In all countries, nurses are professionally trained workers who hold a degree, either as professionals (tertiary degree) or as associated/vocational professionals (technical degree after high school). They correspond to ISCO-88 codes 2221 (Nursing professionals) and 3221 (Nursing associate professionals). Healthcare assistants are personal care workers who provide supervision and assistance with mobility and daily living activities. The definition of their job profiles and associated minimum education levels vary notably among Member States. Depending on the country, they are also referred to as nursing assistants or nursing aides. Overall, they correspond to ISCO-88 code 5321 (Healthcare assistants). Depending on the type of residents, other health and care workers can also provide services in residential settings, namely specialised support for adults with physical disabilities, learning disabilities, or physical or mental illnesses.

Table 2: Glossary of sectoral and occupational terms delineating residential care work

Terms	Definition (references and statistical categories of reference)
Residential care	Residential care refers to health and personal care services provided in residential settings (other than hospitals). It includes: ▪ residential nursing care activities in homes for older people, convalescent homes, rest homes with nursing care, nursing care facilities and nursing homes (NACE 87.1); ▪ residential care (but not licensed hospital care) for people with intellectual disabilities, mental illness or substance abuse problems (NACE 87.2); ▪ residential and personal care services for older people and disabled people who are unable to fully care for themselves and/or who do not desire to live independently (NACE 87.3); ▪ other residential care activities (NACE 87.4).
Community care	Community care refers to any form of support and care provided in the local community that enables people to overcome or manage any condition, disability or life difficulties, while living alongside others in their local communities, rather than in segregated institutions (ESN, 2024).
Formal home care	Formal home care refers to any form of support and care services for adults with disabilities or chronic illness provided by professional carers in clients' homes and carried out by public or private providers (NACE 88.10 social work activities without accommodation for older people and disabled people).
Long-term care	Long-term care consists of a range of services and assistance for people who, as a result of mental and/or physical frailty and/or disability over an extended period of time, depend on help with daily living activities and/or require some permanent nursing care. Long-term care can be provided in different forms: residential care, community care and home care.
Nursing professionals	Nursing professionals provide treatment, support and care services for people who are in need of nursing care due to the effects of ageing, injury, illness or other physical or mental impairment, or potential risks to health. They assume responsibility for the planning and management of the care of patients, including the supervision of other healthcare workers, working autonomously or in teams with medical doctors and others in the practical application of preventive and curative measures (ISCO 2221).
Nursing associate professionals	Nursing associate professionals provide basic nursing and personal care for people in need of such care due to the effects of ageing, illness, injury or other physical or mental impairment. They generally work under the supervision of, and in support of the implementation of healthcare, treatment and referral plans established by medical, nursing and other health professionals (ISCO 3221).
Healthcare assistants	Healthcare assistants provide direct personal care and assistance with activities of daily living to patients and residents in a variety of healthcare settings such as hospitals, clinics and residential nursing care facilities. They generally implement established care plans and practices, and work under the direct supervision of medical, nursing or other health professionals or associate professionals (ISCO 5321). They are also referred to as personal care workers, nursing assistants or nursing aides.

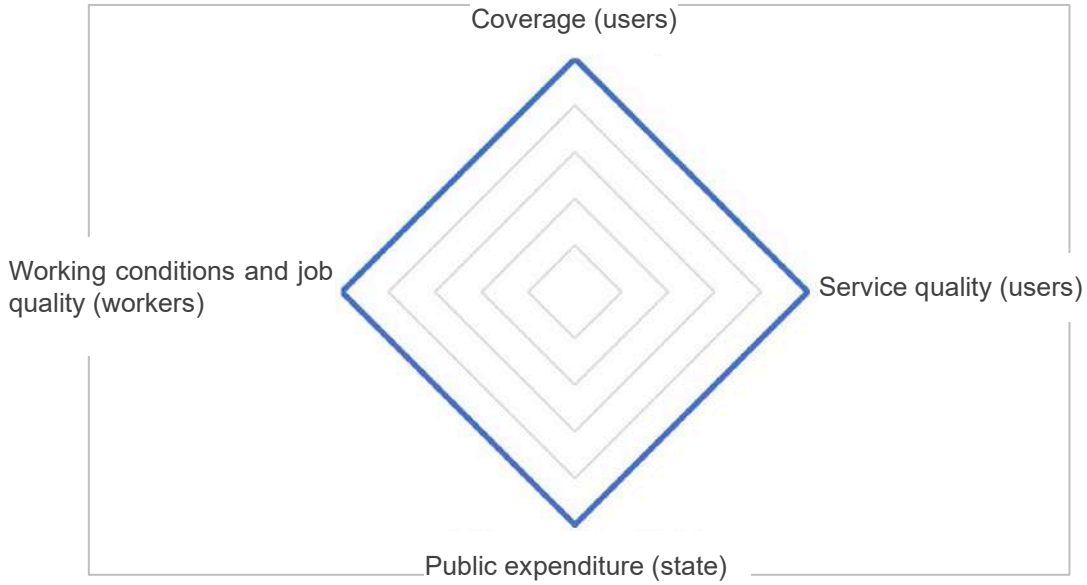
2.2 Main structural features and trends

In the EU, 4.3 million people were working in the residential care work sector in 2024, according to the EU Labour Force Survey. Employment has been steadily growing over the last decade (with an 8.9 % increase since 2014) and this trend is expected to continue, especially due to the increasing demand for LTC services in both residential settings and recipients' homes (EU-OSHA, 2022).

Population ageing and the expansion of chronic diseases driven by lifestyle changes have led to a rising demand for LTC across the EU. The number of people potentially in need of LTC in the EU is projected to rise from 31.2 million in 2022 to 33.2 million in 2030 and 37.8 million in 2050 (Pavolini & Marlier, 2024). Moreover, the rise of dual-earner households and changes in traditional gender roles are leading to an increasing demand for LTC services.

Considering these developments, Pavolini and Marlier (2024) contend that the provision of LTC is confronted with a 'quadrilemma' and attempts to address this may adversely affect the working conditions and OSH of LTC workers (see Figure 1).

Figure 1: The long-term care quadrilemma



Source: Pavolini and Marlier, 2024.

According to Pavolini and Marlier (2024), policy-makers face four main challenges regarding LTC. Firstly, public budget limitations are a concern. Over the past two decades, most Member States have seen an increase in public LTC expenditure, with further growth anticipated. Policy-makers must allocate resources judiciously to address growing and varied social needs, including LTC and other socio-economic requirements. Secondly, there is a pressing need to expand LTC coverage, encompassing both comprehensive needs assessment and service provision, as well as improved protection and affordability. Many Member States face significant coverage gaps and high levels of unmet LTC needs. Thirdly, it is crucial to ensure high-quality service delivery. This hinges on a skilled and adequately staffed workforce with fair working conditions. Lastly, the improvement of wages and job quality is essential to attract and retain qualified professionals in the sector. However, when Member States attempt to address this quadrilemma, working conditions often bear the brunt. This occurs for various reasons, with one factor playing a particularly significant role. LTC is characteristically labour-intensive, and there is a risk that wages in this sector may grow more slowly than in other sectors due to limited potential for productivity gains. Moreover, increases in wages may impact the affordability of services for care recipients and their families.

Interviews with stakeholders largely confirmed the relevance of this quadrilemma, pointing to a set of structural trends with negative impacts on the employment and working conditions of residential care workers. Chronic understaffing was consistently reported by all the interviewed stakeholders as the most significant factor affecting working conditions and the safety and health of residential care workers.

According to the union representatives who were interviewed, this issue is often masked by misleading staffing ratios that artificially inflate numbers by including non-direct care staff, such as caterers or cleaners, as part of staffing calculations. This creates a false impression of adequate staffing levels. Understaffing of residential care settings often results in workers performing tasks beyond their competence and training. As noted by one interviewee, 'nurses are essentially performing tasks related to doctors, while personal carers perform nursing tasks, and housekeeping staff perform care-related work'. Employers' representatives frame the issue in the context of insufficient financing, which severely limits care providers' ability to offer adequate compensation to workers in a sector that is heavily reliant on public funding. The problem of understaffing is further aggravated by high absenteeism rates and organisations struggling to maintain staff-to-patient ratios.

Persistent staff shortages stem from a combination of low wages and demanding working conditions, which deter new entrants and cause experienced workers to leave the sector. This results in what some interviewees described as a 'vicious circle' that makes the sector unattractive, particularly for younger qualified professionals.

Trade unions highlight that the privatisation of the residential care sector and the way private providers respond to market logic often lead to cost-cutting measures that compromise the quality of care and labour standards, which are also illustrated by research evidence. In Spain, public funding mechanisms have accelerated the growth of private for-profit providers while progressively reducing direct care provision. By 2022, privately owned or managed residential care centres represented 85.8% of the total, approaching the levels observed in historically liberal welfare regimes, such as the United Kingdom. Private residential care centres often operate with a cost-containment logic to secure competitive pricing, which is also reflected in higher shares of part-time jobs and temporary employment compared to public providers. Crucially, staff ratios are substantially lower in private for-profit centres compared to public ones (33 vs 48 direct care workers per 100 users) (Martínez Buján & Nogueira Domínguez, 2025).

The review of the literature partially corroborates these views, with differences across countries and types of private providers. The findings are presented below, structured in two sections. The first section deals with public funding and governance. It focuses on the impact of privatisation and marketisation on the working conditions of residential care workers. The second section addresses staff shortages and challenges for recruitment and retention.

2.2.1 Public funding and governance

LTC systems across Member States vary widely due to the differing historical, cultural and policy contexts that shape their development. These variations are influenced by long-standing national traditions regarding family responsibility, social welfare models and the role of the state in providing care. The level and mode of public investment in LTC differ substantially among Member States, reflecting divergent approaches to financing and service delivery. Some countries allocate significant public funds to service provision, as a percentage of gross domestic product (GDP). They often adopt a universalistic approach for determining eligibility criteria, which is associated with higher coverage rates for residential and home care services (Belgium, Denmark, France, Netherlands, Finland and Sweden). In other Member States, the level of public investment is lower and is channelled primarily through cash benefits, which provide recipients with financial resources to purchase care privately or compensate informal caregivers. This distinction affects not only the accessibility and quality of care, but also the overall structure of LTC systems. It influences workforce composition, care standards, and the integration of formal and informal care networks (Pavolini, 2022; Ghailani, Durri & Merler, 2025). European Social Policy Analysis Network (ESPAN) experts caution that several countries have insufficient public investment levels and face challenges in distributing public resources between in-kind services and cash benefits. This issue has been noted in Bulgaria, Estonia, Greece, Spain, Croatia, Cyprus, Latvia, Lithuania, Hungary, Malta, Slovenia and Slovakia (Ghailani, Durri & Merler, 2025).

Furthermore, Member States differ in their governance of LTC systems. In most countries, LTC competences are split between the healthcare and the social care systems in terms of funding, regulation and service provision, with different degrees of integration and coordination. In many countries, the responsibilities for management and provision of residential care services are rather decentralised at the local level. Diversity in governance also contributes to increasing differences across and within countries in the quality of care and the working conditions of LTC workers (European

Commission, 2021a; Ghailani, Durri & Merler, 2025). In this regard, wages for comparable occupations with similar qualification requirements are generally lower in the LTC sector than in the healthcare sector, particularly in hospitals. Wage disparities were identified by interviewees as one of the most critical issues. Critically, interviews in Poland pointed to legal mechanisms allowing employers to circumvent healthcare wage regulations in the residential care sector, by restricting their application to medical professions under standard employment contracts. This has created significant wage inequalities in the same facilities, or in private for-profit facilities that are not covered by sectoral regulations. The issue of wage disparities between healthcare and residential care settings has also been highlighted by the Organisation for Economic Co-operation and Development (OECD, 2020) as a global challenge, as nurses in LTC are significantly lower paid than nurses working in hospitals.

Despite variation in LTC systems in the EU, two trends are evident in all Member States. Firstly, there is a strategic policy shift towards **enhancing the provision of non-residential LTC services**, specifically home care and communal services (EC, 2021a; EC, 2022; Pavolini & Marlier, 2024). The policy shift towards **deinstitutionalisation in LTC** reflects wider societal and economic trends that emphasise ageing in place and individualised care. Care provided in community settings and at home is generally more cost-effective than residential care. Importantly, these options often align with the preferences of care recipients who wish to maintain their independence and remain in familiar environments, which can improve their quality of life. Nonetheless, this shift presents notable challenges. In some regions, particularly in Southern Europe, where public services are scarce and private professional services are unaffordable, families often resort to hiring non-professional domestic care workers under poor economic and working conditions, often as undeclared labour.[2] Generally, LTC workers experience better employment and working conditions in residential facilities than in home-based settings (Eurofound, 2020; EU-OSHA, 2024b; Pavolini & Marlier, 2024). However, concerns about employment and working conditions are prevalent in both environments. Research points to low wages, the rise of precarious employment conditions, and increased workload and time pressure (Eurofound, 2020; EU-OSHA, 2024b; Pavolini & Marlier, 2024).

Notably, the LTC workforce is predominantly female, with women making up over 80 %.[3] While this provides more job opportunities for women, it also results in a disproportionate number of women in low-skilled, low-paid positions, reinforcing the stereotype of care work as 'feminine' and undervalued, which limits career advancement and the appeal of LTC jobs (Eurofound, 2020; EU-OSHA, 2024b).

Secondly, there is a notable trend towards the **marketisation and privatisation of LTC services**, characterised by the subcontracting and outsourcing of core services (European Commission, 2021a, 2022; Pavolini & Marlier, 2024). Over the last three decades, there has been a notable rise in the number of private for-profit and non-profit organisations in the LTC sector. To a lesser or greater extent, private providers are involved in the provision of LTC services in all Member States (European Commission, 2021a). In some countries (Germany and Sweden), privatisation has been driven by market-policy approaches that intend to increase competition, on the assumption that it will lead to higher cost-efficiency, better quality of care and enhanced consumer choice. In other countries, private providers have developed mainly as a response to shortages in the provision of public services (Spasova et al., 2018). While there is a lack of comprehensive data on the number of private for-profit and non-profit providers, there is evidence that for-profit providers are the main operators in some countries (for example, Belgium, Germany and Spain) and have a significant presence in many other countries. The study on the supply of LTC services notes that even in countries with a strong tradition of public services (such as France or Sweden) there is a relevant number of private providers, although public providers continue to be the main operators (European Commission, 2022).[4]

Based on EU Labour Force Survey data for 2022 and the Structure of Earnings Survey, Pavolini and Marlier (2024) indicate that the share of residential LTC workers in the private sector is 56 % on average

[2] According to estimates by the European Labour Authority (ELA), the number of undeclared workers in 2019 was 2.1 million in the social work sector (NACE 88), which includes the home care sector, with a further 4.7 million directly employed by households (NACE 97).

[3] Based on EU Labour Force Survey data for 2022, EU-OSHA (2024) estimates that women account for 82 % of the workforce in the residential care sector in the EU, while Pavolini and Marlier (2024) estimate that women account for 87 % of the LTC workforce in the EU (this includes LTC workers in either residential settings or recipients' homes).

[4] The study analyses a sample of 16 Member States (Belgium, Bulgaria, Czechia, Germany, Estonia, Ireland, Greece, Spain, France, Italy, Netherlands, Austria, Poland, Romania, Finland and Sweden).

in the EU, with notable differences across countries. The share is very high in three countries (Luxembourg, the Netherlands and Portugal) and above the EU average in 10 countries (Belgium, Czechia, Germany, Estonia, Greece, Spain, Italy, Cyprus, Malta and Austria). The study also notes that LTC personal workers (in residential and formal home care services) have low wages: their average hourly gross wage is 69 % of the economy-wide average hourly gross wage. In this regard, substantial disparities across Member States are also found. In some countries, this percentage ranges from 93 % to 80 % (Czechia, Luxemburg, Netherlands, Austria). Conversely, in other countries, wages are notably lower, and the percentage is 58 % to 56 % (Estonia, Latvia, Poland, Portugal). Furthermore, the study indicates that the private sector offers lower wages than the public sector in half of the Member States (Belgium, Czechia, Germany, Ireland, Greece, Spain, Croatia, Italy, Cyprus, Hungary, Malta, Romania, Slovenia and Slovakia). Differences in legislation and collective bargaining are the main factors explaining these variations. Furthermore, the study on the supply of LTC services reveals that in most cases, public procurement prioritises price to the detriment of quality aspects (European Commission, 2022).

Some studies indicate that the **introduction of market-oriented principles in the provision of LTC services has negative consequences for the quality of care and the working conditions of residential care workers.** A study by Corlet Walker, Druckman and Jackson (2022) provides a critical analysis of the impact of marketisation and privatisation on care in residential homes and nursing homes in Australia, Sweden, the UK and the USA. All these countries have undergone significant marketisation and privatisation over the past 30 years, with for-profit companies responsible for a significant proportion of care delivery. This shift has embedded market principles such as competition, consumer choice and the profit motive into the provision of care services. While the original motivation was to improve cost-efficiency and quality while offering greater consumer choice, evidence suggests that this has not been achieved. Despite indications that for-profit care providers are often (although not always) more cost-efficient, there is substantial evidence that they deliver, on average, worse quality of care and poorer working conditions. When providers face competitive pressure, they tend to reduce wages, cut staff-to-resident ratios and increase workload – all strategies that compromise care quality. The problem intensifies when governments, as bulk purchasers, use their market power to set unsustainably low prices, squeezing provider margins and forcing choices between shareholder profit and quality investments.

The study argues that quality provision of residential care fundamentally conflicts with market-based approaches. First, care work is inherently time-intensive, and there is limited room for productivity improvements that do not deteriorate the quality of care and working conditions. Second, the promotion of consumer choice cannot effectively motivate improvements in the quality of care. The physical and emotional consequences of relocating to a different care home create what researchers call ‘consumer stickiness’. This means residents cannot freely express preferences between providers, which undermines the foundation of consumer-choice-based markets. The resulting power imbalance enables providers to prioritise profit over wages and quality improvements without losing customers. Moreover, in Australia, the UK and the USA, a lack of accessible price and quality information distorts markets and leads to price disparities, with private residents often paying higher fees than publicly funded counterparts for identical services. The study advocates for the rejection of market principles and the in-depth transformation of residential care as a non-profit sector (either public or a mix of not-for-profit providers) with increased public funding, strengthened quality criteria and stronger worker protection.

Empirical studies in Germany (Müller, 2018) and Sweden (Broms et al., 2024) further substantiate these findings. Müller’s (2018) qualitative study examines the impact of marketisation and privatisation in Germany, where market-oriented principles were first applied to the provision of LTC in residential settings in the 1990s. The study is based on ethnographic interviews with staff, management, family members and residents. Price competition has led to an increasing presence of for-profit providers, which usually offer lower prices than not-for-profit providers. However, the author argues that the process of marketisation and privatisation influences all private providers, blurring the lines between non-profit and for-profit. Negative impacts on working conditions are noted, namely lower wages, worsening of staff-to-resident ratios and inadequate qualification levels, leading to deterioration of the quality of care.

The study by Broms et al. (2024) examined residential care homes (*särskilt boende*) in Sweden, which provide complex services to seniors when home-based care is insufficient. Swedish municipalities are

responsible for elder care provision and may either provide services directly or contract non-public providers through direct procurement or choice systems. The research focused on a context where for-profit providers are more prevalent than in other Nordic countries, with approximately one in five care home residents living in facilities operated by non-public organisations. The study relied on two interconnected surveys conducted by the Swedish National Board of Health and Welfare (Socialstyrelsen). The Facility survey documented characteristics of individual facilities, including size, care profile, ownership and care-related attributes from 2012 to 2019 (except 2013), while the Resident survey measured residents' experiences and satisfaction with services from 2014 onwards. The sample included 2,284 observations of 469 for-profit facilities and 373 observations of 76 non-profit facilities. To evaluate the quality of elder care, five indicators were used. Three indicators capture input-related aspects: staff density, nurse density and staff education. As a process-related indicator, the study used the share of residents with an updated action plan. The final measure, capturing one type of outcome, is the residents' satisfaction with care. The authors noted that other indicators, particularly those pertaining to objective resident quality of life and health outcomes, were not available. Multivariate analysis examined how private ownership types – non-profit (NP), private limited (PL), private equity (PE) and publicly traded (PT) – affect service quality in Swedish nursing homes. The research found that non-profits achieve higher staff density, better-educated personnel and more satisfied residents than other non-public providers. In the for-profit sector, private limited companies outperform private equity and publicly traded firms on input indicators and resident satisfaction measures. A key finding is that the intensity of quality-shading incentives varies significantly across non-public providers, extending beyond the traditional public-private distinction in service provision literature. The study suggests that public managers who contract PE or PT firms should implement higher quality demands, closer performance monitoring and enhanced quality-assurance measures.

In Canada, Estabrooks et al. (2015) linked the ongoing trend towards marketisation and privatisation to increasing reliance on a racialised and migrant female workforce. The study offers one of the most detailed portraits of the unregulated direct-care workforce in LTC homes. Drawing on data from more than 1,300 care aides across three provinces, the study points to major gaps in training standards and regulation. This leads to a highly feminised and migrant workforce, who are unevenly trained and with limited access to continuing education. These workers, who now perform most of the hands-on care, face low pay and minimal oversight. The authors argue that this deprofessionalisation of the workforce undermines both care quality and staff well-being, as workers face heavy workloads, ethical strain, little recognition and high turnover rates. In a similar vein, interviews in Poland revealed that recruitment in the residential care sector increasingly relies on migrant workers, notably Ukrainian women since 2022, who are more vulnerable to exploitation. Regulatory oversight by public administrations is weak and trade unions are not strongly present in the sector. As a result, they have limited ability to address structural issues.

2.2.2 Staff shortages, recruitment and retention

The growth of LTC employment is constrained by significant and widespread labour shortages. Nearly all Member States face challenges due to a lack of skilled professionals in this sector (SEPEN, 2021; EU-OSHA, 2024b; OECD, 2024; Pavolini & Marlier, 2024). Labour shortages are especially severe for personal care workers, although they are also relevant for nurses. The reasons for these shortages vary by context. For instance, in many central and eastern Member States, the shortage partly results from a 'care drain' as workers migrate to western Member States. The issue extends beyond LTC, affecting the entire HeSCare sector, though it is particularly severe in LTC (Pavolini & Marlier, 2024). Significantly, the residential care sector continues to experience severe labour shortages, despite having the highest proportion of migrant workers in the HeSCare sector, accounting for 14.4 % in 2021 (European Commission, 2021a).

Recent research and policy debates have warned of an increasing gap between a fast-growing demand for LTC services and the available workforce capacity at the national level. A relevant factor involved in these projections is the ageing LTC workforce, which is reflected in the high share of workers close to retirement in many EU countries (OECD, 2023). In the HesCare sector, 37% of employees are aged 50 years or older, which is 3 percentage points higher than in the overall workforce. Additionally, in residential care, the proportion of workers aged 65 years or above (therefore exceeding the retirement

age in many EU Member States) is relatively high and has nearly doubled over the past decade (EU-OSHA, 2024b).

A substantial body of empirical research points to **difficulties in the recruitment and retention of residential care workers**. Low wages, understaffing, challenging working conditions and a lack of professional recognition perpetuate difficulties with recruitment and retention, which are exacerbated in a context of limited public investment and increasing privatisation (European Trade Union Institute, 2022). In contrast, retention is linked to job satisfaction, motivational factors and professional identity among residential care workers. Research also highlights that supportive management and participatory work environments can mitigate turnover intentions.

A prominent contribution to the evidence in this area comes from a systematic integrative review across several countries that combined quantitative, qualitative and mixed-methods studies (O'Keefe et al., 2025a). The study focused on personal care workers (a group whose name varies across the analysed countries: certified nursing assistants, nursing assistants, health assistants, personal care aides and direct care workers). The selected studies cover a broad range of countries, including Australia, Canada, China, France, Korea, Sweden and the USA. The authors categorised the determinants of workers' intention to leave into three interrelated domains: individual, organisational and structural. At the individual level, younger workers and those experiencing MSDs, emotional exhaustion, low job satisfaction or weak affective attachment to residents were more likely to express an intention to leave. Organisational factors included unsupportive leadership, low staffing ratios, excessive workloads, inflexible schedules, and limited opportunities for skill development or career advancement. At the structural level, the review underscored the systemic undervaluation of care work, with low wages and employment insecurity as key drivers of turnover, calling for organisational and policy reforms to strengthen retention and improve job quality in the residential care sector.

Using a similar methodological approach, O'Keefe et al. (2025b) explored the intention to stay among personal care workers in residential care settings. The systematic review included mainly studies in Australia and the USA. They found that older age, resilience, language proficiency and professional competence increased the likelihood of remaining, while economic insecurity and language barriers weakened job attachment. At the organisational level, supportive supervision, fair workloads, training opportunities and clear career pathways were key drivers of retention. At the structural level, stable contracts, adequate pay and greater social recognition of care work enhanced workers' commitment to stay. Crucially, job satisfaction emerged as the most consistent predictor across studies. The emotional connection workers develop with residents, and their perception of high standards of care in their workplace, were found to be particularly powerful factors reinforcing their commitment to remain in personal care roles.

A systematic review by Thwaites et al. (2023) examined the challenge of retaining care workers across residential and home-based care settings. The review focused on personal care workers (or health assistants) providing care to older people. The selected studies come from a broad range of countries, with most in Australia, Canada, Sweden and the USA. It identified several individual and organisational factors that contribute to retention. Individual factors were related to personal satisfaction and fulfilment from work; positive relationships with other staff, families and residents; and a cooperative workplace culture. Organisational factors included opportunities for on-the-job training and career development, appropriate wages, robust OSH policies to prevent workplace injuries, and job stability and security. The review also identified the factors that are most strongly associated with high staff turnover and worker attrition: understaffing, heavy workloads and excessive demands on workers, high levels of stress and burnout, and low overall job satisfaction.

A study in Switzerland (Peter et al., 2024) examined the intention to leave in four settings: acute care/rehabilitation hospitals, psychiatric hospitals, nursing homes and home care organisations. The research employed a repeated cross-sectional design involving 19,340 professionals from 2017 to 2020. It focused on factors influencing stress, burnout, job satisfaction and intention to leave the profession. The primary stressors specific to nursing homes refer to high emotional and physical demands. Additionally, work-life conflict represents a significant concern across all settings, substantially impacting job satisfaction and intention to leave. Demographic analysis reveals that younger professionals have a notably higher intention to leave their positions than their older counterparts. This has considerable implications for workforce retention across age groups. The study also identified important

organisational factors that enhance professional well-being. Good leadership quality positively influences job satisfaction and reduces intention to leave. A strong organisational bond, reflecting meaningful workplace connections and commitment, similarly contributes to job satisfaction and retention. Furthermore, access to development opportunities and career advancement pathways strengthens professionals' commitment to their organisations and improves overall job satisfaction.

Also in Switzerland, Gaudenz et al. (2019) explored intention to leave using data from nearly 4,000 care workers in 156 nursing homes. Although 56 % of care workers reported an intention to leave, the prevalence varied widely between facilities. The multivariate analysis identified supportive leadership and affective organisational commitment as the aspects most strongly associated with willingness to stay in the job, while physical health problems, emotional exhaustion, interpersonal stress and lack of recognition significantly increased the likelihood of leaving. In contradiction with other studies, the analysis found that factors such as perception of inadequate staffing levels and excessive workload were not significant predictors of intention to leave. Similarly, a multivariate study of 175 Dutch nursing homes (N = 3,932) demonstrated that supportive management strongly predicted job satisfaction and perceived retention (Van den Berg et al., 2025). In this case, perceptions about workload or other working conditions were not tested. Devi et al. (2021), reflecting on the situation in the UK, argued that efforts to attract and retain nurses and health assistants remain overly generic and tend to overlook the broad range of conditions undermining retention in residential care settings (individual, organisational and structural). They called for a more context-sensitive approach that recognises the heterogeneity of the workforce and the various types of care homes.

Trede and Schweri (2014) examined the career aspirations of Swiss healthcare assistants in different settings and found that those trained in hospitals were significantly more likely to pursue a nursing degree than those trained in residential care settings. This suggests that the LTC environment offers fewer perceived opportunities for professional advancement and recognition. Pay, career prospects and social status strongly predicted the intention to continue studying, whereas motivations such as vocation or empathy were not found to be decisive.

In this strand of literature, several studies have examined the impact of understaffing on the quality of care. Nurses and, even more importantly, healthcare assistants are the workers who develop the closest relationships with residents and their families and have the greatest potential to influence the quality of care and residents' quality of life. Establishing minimum staff requirements is often advocated as an intervention for improving the quality of care in residential settings. Empirical research reveals that adequate staffing ratios are necessary, although organisational factors such as staff stability, qualification levels and management practices influence quality outcomes independent of staffing ratios[5].

Systematic reviews on the relation of staff levels and quality of care reveal mixed results (Clemens et al., 2021; Backhaus et al., 2014; Spilsbury et al., 2011). A focus on numbers fails to address the influence of other staffing factors (such as turnover, agency staff use and working conditions), the training and experience of staff, and care organisation and management. These studies also highlight that 'quality' is a difficult concept to capture directly, and further research is needed to establish well-grounded quality of care indicators.

In the US, Chen and Grabowski (2015) assessed the effects of new regulations establishing minimum staffing ratios in nursing homes in two states (California and Ohio). Their study was based on large panel data comprising 45,738 nursing home-year observations spanning 1996 through 2006. Their analysis revealed important findings regarding the intended and unintended consequences of minimum staffing standards on care quality outcomes. Minimum staffing requirements increased total nursing hours per resident, but the composition of this increase was mostly driven by hiring lower-qualified and less costly nursing staff (certified nursing assistants and licensed practical nurses), rather than registered nurses. However, the regulation had the unintended consequence of reducing indirect care workers, such as housekeeping, food services and activities staff, to compensate for the higher mandated direct care costs, particularly in the facilities with the lowest baseline staffing levels. Better-

[5] For more information about staffing ratios in residential care units, see case study *Staffing ratios in Finnish residential care: implications for safe and healthy work*, available at: https://osha.europa.eu/en/publications/staffing-ratios-finnish-residential-care-implications-safe-and-healthy-work

staffed facilities experienced wage pressures that led them to reduce nursing assistant staffing. Findings showed some improvements in certain care quality outcomes, as measured by reduced deficiency citations and contractures, though other quality measures remained unchanged. This suggests that the cost-driven substitution effect was effective for preventing certain issues but insufficient for addressing others.

In Norway, Veenstra and Gautun (2021) examined community nurses' perceptions of staff adequacy in care services for older patients discharged from hospitals and how these assessments vary across care settings. Drawing on a large survey of results (N = 3,461), the study showed **that** residential care settings, and particularly nursing homes providing specialised care for older patients with higher needs, represent the most challenged care setting in terms of staff adequacy perceptions. These perceptions are characterised by concerns about quantitative staffing shortages and qualitative imbalances in workforce skill mix. On the staffing adequacy scale, nursing home nurses reported the lowest average score at 13.4, compared to home care nurses (14.6) and residential care nurses (13.9). The concern about excessive unqualified care workers was also most pronounced in nursing homes, where 72 % of nurses agreed this was a problem, compared to 64 % of residential care nurses and 60 % of home care nurses. Additionally, 53 % of nursing home nurses reported too many unfilled posts at their workplace, indicating that nursing homes faced both quantitative shortages and qualitative concerns about workforce composition that exceeded the other two settings.

In the Netherlands, Backhaus et al. (2017) conducted a cross-sectional study to examine the relationship between work environment characteristics, direct care staffing levels and perceived quality of care in nursing homes. The research included 55 somatic and psychogeriatric wards across 21 facilities, with data collected from 274 staff members (registered nurses and certified nurse assistants) and ward managers. Key findings revealed that direct care staffing levels alone were not significantly associated with quality of care outcomes. Instead, working conditions and work environment factors emerged as crucial determinants. These findings underscore that organisational culture, team dynamics and interprofessional collaboration have a greater influence on the quality of care than staffing ratios alone. The study emphasised the importance of investing in work environment improvements and team-building initiatives as strategies to enhance the quality of care in nursing home settings.

A recent review of research expanded on the relationship between staffing levels and residential care workers' job quality. Miller et al. (2026) revealed how workers take on additional burdens to mitigate or compensate for the negative impacts of understaffing on the resident population, even to the detriment of their own well-being. Minimum staffing levels set for basic requirements do not provide flexibility and time to attend to unexpected events, such as residents' falls or challenging situations, requiring workers to work at a faster pace or to prioritise some residents' needs over others. To manage inadequate staffing conditions, residential care workers are often required to work additional hours or double shifts, often unpaid and communicated at very short notice. Additionally, over the past decades, changes in the skill mix and work organisation practices driven by cost-saving measures resulted in the replacement of registered nurses by lower-qualified workers, along with a growing reliance on agency workers. This has resulted in increased supervisory roles and responsibilities for the remaining registered nurses. The review also highlighted the issue of moral dilemmas experienced by care workers, which influence their willingness to accept working conditions without harming vulnerable residents.

2.3 Initiatives addressing structural issues

The European care strategy issued by the European Commission (2022) advocates for improving working conditions and providing adequate staffing levels as means to tackle labour shortages, improve the quality of care, and enhance the safety and health of LTC workers. In particular, the 2022 Council Recommendation on access to affordable high-quality LTC (Council of the European Union, 2022), part of the European care strategy, recommends that Member States support quality employment and fair working conditions in LTC. This includes promoting the highest standards in OSH and addressing the challenges of vulnerable groups of workers (namely, migrant care workers and home care workers, including by providing effective regulation and professionalisation of such care work). In March 2024, the European Commission presented an action plan to tackle labour and skills shortages involving social partners and Member States. Member States are called to address skills needs and staff shortages in LTC, for instance, by promoting national social dialogue and collective bargaining, strengthening professional standards and providing adequate social protection for LTC workers.

In this context, in June 2025, the Federation of European Social Employers (FESE) and the European Federation of Public Service Unions (EPSU) agreed on a framework of actions on retention and recruitment in social services in response to the European Commission's care strategy action plan. The agreement represented the first major achievement of the European Sectoral Social Dialogue Committee for Social Services, established in 2023 (European Commission, n.d.). The framework addresses recruitment and retention strategies through multiple dimensions, ranging from professionalisation through training and career progression opportunities, and aspects of working conditions (wages and work-life balance). Crucially, the framework emphasises employers' obligation to provide healthy and safe working conditions and the need to conduct comprehensive risk assessments that consider all types of risks and are regularly updated with effective action plans.

A review of national implementation progress reports of the EU care strategy identifies relevant examples of initiatives to address structural issues in LTC through the improvement of general employment and working conditions, and the OSH of residential care workers (InGoodShape, 2026; European Commission, 2024a). The findings presented below are also based on additional desk research and fieldwork conducted in this study.

2.3.1 Improving training and professionalisation

The EU care strategy emphasises the need to improve the professionalisation of care and to address skills and staff shortages by investing in education and training and creating career pathways and professional standards in the LTC sector. To build clearer career progression opportunities, several Member States have developed structured approaches to expand roles and create career pathways so that care workers can advance in their profession while improving service quality. Italy's Decree No 77 exemplifies this approach by establishing new roles such as the family or community nurse and case manager role that offer leadership opportunities and enable advancement across health and social care sectors through multiprofessional team integration (InGoodShape, 2026).

In Spain, the 2022 Accreditation and Quality Agreement, a significant milestone in the implementation of the European care strategy, established service quality criteria common to all services (residential care and home care) and other measures to improve working conditions through the increase of staff ratios. The agreement includes continuous training requirements for all care workers and outlines provisional qualification pathways. Similarly, Denmark has introduced mentoring and co-teaching programmes to support progression from helper to assistant roles, while Finland encourages care assistants to become practical nurses via apprenticeships with regular competence assessments and continuous education plans.

Simultaneously, Member States are investing in accessible, flexible training systems supported by financial incentives. For instance, Austria introduced financial support measures to strengthen nursing education by including a monthly education subsidy of EUR 600 for people undergoing care-related training, and a nursing grant targeting individuals retraining for higher qualifications. Belgium complements this approach through the It Takes a Village initiative, which offers free training and coaching to support the cultural transformation of nursing homes into genuine homelike facilities and a shift towards person-centred approaches (InGoodShape, 2026).

Another notable initiative is the Swedish Elderly Care Lift, which was introduced as a government grant in 2020 to enhance skills in municipally funded health and social care services for older people. The initiative offers new and existing staff the opportunity to undergo training during paid working hours (Box 1).

Box 1: Elderly Care Initiative (Sweden)

The Elderly Care Initiative is a targeted government grant that has been in place since 2020. Municipalities can apply for this grant to develop workers' skills in care for older people. The purpose is to support skills provision in municipalities, and in the long term to increase the quality of care for older people. In 2025, the government grant will amount to SEK 1.7 billion. In total, around 8,800 workers undertook further training to become nursing assistants, care assistants or specialist nursing assistants in 2024. In addition, approximately 40,000 people participated in shorter courses on topics

such as customer service, hygiene and core values. The initiative also included language support and Swedish language training for healthcare personnel. Just over 1,400 workers studied Swedish.

The initiative has had several positive effects on staffing and skills provision, with potential to impact the working environment and the OSH of workers. According to a report by the Swedish Association of Local Authorities and Regions (SALAR), the positive impacts are spread across multiple dimensions.

Municipalities report that the initiative has contributed to addressing critical staff and skill shortages. It has made care for older people a more appealing profession, with many more workers studying to obtain professional degrees as nurses or care assistants. The initiative has also contributed to improving care quality and workers' professional competence, job satisfaction and sense of purpose, with trained workers feeling more confident to handle complex situations.

Another key outcome of the initiative is its contribution to more supportive work environments. A higher share of trained nurses has led to increased differentiation of work tasks. This results in better allocation of roles that require competence and reduced role ambiguity in tasks. It also strengthens incentives for training. The grant has enabled training efforts for first-line managers, facilitating recruitment in municipalities that have difficulty attracting them (Sveriges Kommuner och Regioner, n.d.).

Another type of measure focuses on setting minimum educational standards for ancillary occupations or job roles with fewer qualification requirements. A recent long-term reform in France tackled the problem of nursing assistants who lack proper training and certification (Box 2). Similarly, in Sweden, a 2023 reform established regulations for the nursing assistant profession, to ensure that vocational training aligns with the required competences and qualifications to guarantee safe and quality personal care for clients. These reforms aim to enhance the status and appeal of nursing assistant careers and improve the quality and safety of LTC services.

Box 2: Professionalisation of nursing assistants (France)

In 2023, France adopted legislation to improve the situation of older persons and carers (the ageing well reform). One pillar focuses on high-quality LTC services and training needs. Education and training of the LTC workforce is based on a state-region protocol, where the state funds training organised by regions.

The new protocol increases state financing for training nursing assistants and social carers. The nationwide goal is to grow the workforce by 16,000 more nurses and 2,000 more social carers annually. The reform also addresses the issue of untrained and uncertified nursing assistants. Estimates indicate that around 30,000 people in the LTC workforce lack formal training and certification, with nearly 3,000 uncertified workers being hired yearly due to staff shortages. This poses safety risks for care receivers and carers themselves. A five-year qualification plan aims to train 15,000 of these workers, with funding schemes emphasising employer responsibility and support for both employers and workers (European Commission, 2024b).

2.3.2 Higher structural requirements and quality standards

Another group of measures that indirectly aim to enhance working conditions involves establishing higher structural requirements and quality standards for LTC service delivery, including minimum qualifications requirements and adequate staffing levels.

Staffing requirements can take the form of setting either mandatory minimum ratios or ratios that are considered appropriate, thereby nudging the staffing decisions of providers. The USA use a five-star quality rating system to classify nursing homes based on various indicators, including staffing ratios. This system helps care recipients and their families compare LTC providers more easily. In Australia, a similar five-star rating system was introduced in 2022 to assess the quality of all government-funded LTC homes. The staff ratio is based on the amount of time care workers spend per care recipient. It contributes roughly one-fifth to the overall rating (OECD, 2023). In the EU, a notable example is provided

by Finnish legislation on nurse-to-patient ratios in care facilities for older people (Box 3). As indicated above, research reveals that having sufficient staff ratios is crucial, yet factors like staff stability, qualifications and management practices also play a significant role in determining quality outcomes, independent of staffing ratios.

Box 3: Ratio of workers at round-the-clock care units for older people (Finland)

Finland implemented a significant statutory staff-to-patient ratio policy in 2020 for elderly residential care units, beginning at 0.5 and later revised to 0.6 for 2025, with the primary goal of improving care quality and making the sector more attractive to workers. This policy represents a unique intervention in Europe and was a direct response to a 2019 crisis that exposed severe understaffing problems in care homes. The ratio requirement applies to direct client work and is monitored by the Finnish Institute for Health and Welfare to track compliance and measure the policy's effects.

The implementation of this policy has generated a range of opinions among stakeholders. Trade unions, such as SuPer, have been supportive, pointing to improvements in employee well-being and occupational safety as positive outcomes. However, employers have remained critical of the initiative, questioning its evidence base and raising concerns about the challenges in meeting staffing requirements and potential future workforce shortages. Monitoring data have revealed a concerning trend: fewer residential care units are meeting the higher ratio targets, and there was a reduction of approximately 3,500 care professionals by 2025. This underscores the practical difficulties and trade-offs inherent in implementing this workforce regulation.[6]

Several Member States have implemented other approaches for elevating care delivery and professional standards. Austria exemplifies this approach through the National Quality Certificate for Retirement and Nursing Homes (NQZ). This is a standardised external assessment system serving as a voluntary quality development tool that focuses on two key aspects: quality of life for residents and work environment for staff. Evaluation teams provide tailored recommendations to support continuous improvement (InGoodShape, 2026). Similarly, Spain's 2022 Accreditation and Quality Agreement provides a comprehensive framework that defines qualifications for LTC workers and continuous training requirements, formalises standards for PCC, and provides provisional qualification routes for experienced but uncertified workers.

Another relevant example of government efforts to enhance working conditions in residential care settings is provided by Swedish state subsidies to municipalities to ensure quality of care and nursing for older people (Box 4). State subsidies between 2020 and 2023 amounted to almost SEK 4 billion annually and could be used based on local needs to enable improvements and develop activities. One example of an area for development is improving the working environment and working conditions for staff. However, the grant can also be used to prevent disease transmission and to increase the utilisation of assistive technology. According to the National Board of Health and Welfare, which monitors the use of subsidies, 43 % to 59 % of municipalities find that the state subsidy positively impacts staffing and continuity. They consider it has an important role in improving the working environment and conditions for staff caring for older people (Socialstyrelsen, 2024). Across all these interventions, common positive impacts included reduced work-related stress, improved job satisfaction, increased autonomy and social support.

Box 4: State subsidies to municipalities to ensure good care and quality of working life in health and social care (Sweden)

The Swedish Work Environment Authority's assessment of how government subsidies impacted local health and social services for older people for the period 2021 and 2022 showed that projects funded through these grants contributed to strengthened sustainable working conditions in two main ways. The first was enabling more long-term development in improving working conditions and the

[6] For more information see case study *Staffing ratios in Finnish residential care: implications for safe and healthy work*, available at: https://osha.europa.eu/en/publications/staffing-ratios-finnish-residential-care-implications-safe-and-healthy-work

second was producing direct improvements in the working environment, such as increased job satisfaction and reduced stress.

Key interventions addressed in the study had positive effects on work environments. Initiatives to use skills correctly involved mapping staff competences in residential care facilities to ensure that workers' qualifications match their assigned roles. This results in improved job satisfaction and makes workers feel more valued by their employer.

The development of a shared knowledge base for care settings for older people created unified procedures and consistent approaches to work, which substantially reduced uncertainty among staff and increased their sense of security in their professional roles while lowering overall work-related stress.

The development of staffing plans to balance organisational resources and increased staff participation in decision-making processes resulted in a more even distribution of responsibilities and reduced workload stress.

Additionally, skills development and training initiatives strengthened workers' professional identity and confidence in handling complex situations, enhancing psychological security in work teams. It also reinforced professional relationships – demonstrating that comprehensive, multifaceted approaches to workplace development are essential for sustainable working conditions in care settings.

However, limitations were noted in the grant's design, particularly its short time frames and administrative burden, which constrained long-term development efforts (Swedish Work Environment Authority, 2024).

Similarly, the German government has made notable efforts to enhance staffing and working conditions in hospitals and residential care facilities through increased publicly funded measures (Box 5).

Box 5: Emergency programme for nursing and care for older people (Germany)

The emergency programme for nursing and care for older people (Sofortprogramm Kranken- und Altenpflege) has been developing since 2019 as a result of the Nursing Staff Strengthening Act (*Pflegepersonal-Stärkungsgesetz – PpSG*). This is a nationwide comprehensive programme to reduce workload and improve the quality of care by sustainably strengthening staffing and working conditions in hospitals and long-term nursing homes (for older people) through immediate, fully financed measures. Most of the measures can be summarised as either increasing financing or enhancing employment and training measures for care workers.

The programme also includes a set of measures that refer directly to the safety and health of care workers:

- Keeping nurses healthy for longer (workplace health promotion): the programme recognises the high physical and psychological strain in hospitals and care facilities and therefore obliges statutory health insurers to spend an additional EUR 70+ million per year on health-promotion services in these settings. This is achieved by raising the legally defined minimum prevention expenditure from EUR 2.10 to EUR 3.10 per insured person per year. The programme also strengthens the national prevention strategy with specific, joint objectives (across social insurance bodies and other actors) aimed at maintaining employability and reducing sickness absence among nursing staff. It ensures better advisory support for providers through the regional coordination centres established under the prevention act.
- Improving work-family compatibility: as professional care requires night, weekend and shift work in a workforce that is largely female, the programme finances (as a four-year cycle) targeted measures in hospital and care for older people that cover 'special childcare/care needs' beyond

standard daycare opening hours and/or broader initiatives that increase family-friendliness, to make the profession more sustainable and attractive.[7]

2.3.3 Sectoral collective bargaining and social dialogue

Social dialogue and collective bargaining are pivotal mechanisms for the improvement of working conditions of the residential care sector across Member States. In Belgium, the 2021-2025 Wallonia tripartite agreement for the social and health sectors covers more than 60,000 workers and has delivered substantial improvements. Among these is the introduction of the IFIC pay scale, which is designed to align wages with specific job responsibilities rather than solely with seniority or academic qualifications. This change has benefited those whose job responsibilities were previously undervalued, aiming for better retention and improved job quality across the sector. In Germany, a similar tripartite approach pursued the introduction of minimum collectively agreed standards in parts of the sector that were formerly excluded from the scope of regional sector-level agreements (Box 6) (InGoodShape, 2026).

Box 6: Enabling collective bargaining on minimum standards for the care sector (Germany)

The Concerted Action on Care (Konzertierte Aktion Pflege, KAP) marks a significant milestone in Germany's LTC reform. Initiated in 2018 by five federal ministries, it brought together a wide range of stakeholders, including social partners, care professionals and providers, education and training institutions, and policy-makers. The initiative aimed to increase the number of trainees, establish uniform staffing levels nationwide, enhance pay, and improve working and training conditions in the care sector.

The KAP process resulted in the establishment of binding collective pay standards. Since 1 September 2022, all approved LTC facilities are required to pay carers' wages that align with regional collective agreements, even if they are not formally obligated to do so. This mandate, outlined in the Care Bonus Act (Pflegebonusgesetz), has made collective agreements the standard for pay across the LTC sector, resulting in increased wages and the reduction of wage inequalities (InGoodShape, 2026).

Examples gathered from other Member States illustrate how coordinated efforts between public authorities and social partners can lead to substantial improvements in the outcomes of collective bargaining (Box 7). In Latvia, the LTC sector agreement reached in 2023 set new rules on the working hours and rest periods of LTC workers. The agreement ensured that LTC workers receive qualifications that lead to higher salaries than those in municipal social services, along with specific staff ratios. Additionally, all workers are entitled to a 35-hour working week, health insurance coverage and the right to participate in trade unions. They are eligible for special bonuses based on their length of service. Similarly, Denmark launched an initiative towards full-time employment, led by municipalities and public sector trade unions, to increase full-time workers in the municipal care sector. Some municipalities have begun to exclusively advertise full-time positions while allowing part-time options, supported by a tripartite agreement that establishes phased wage increases through 2026, safer working environments, flexible shifts and enhanced working conditions (European Commission, 2024a).

Box 7: Improvement of collectively agreed wages for private residential care facilities in the Balearic Islands (Spain)

In Spain, the LTC sector is covered by a national sector-level collective agreement. However, in recent years there has been a trend towards the conclusion of regional-level agreements, allowing greater flexibility for adapting working conditions to the realities of territorial labour markets. The first regional sectoral collective agreement for private residential care settings in the Balearic Islands for the years 2023-2026 has resulted in significant pay increases for nearly 4,000 workers in the sector. The agreement provides for a 41.25 % pay rise in four years that will apply to all groups of residential

[7] For more information see case study *Germany's emergency programme for carers: strengthening occupational safety and staff retention*, available at: https://osha.europa.eu/en/publications/germanys-emergency-programme-carers-strengthening-occupational-safety-and-staff-retention

care workers, along with a pay revision clause in the event that the agreement is extended beyond its expiration date. The agreement was eased due to the intervention of the regional government, which will allocate an additional budget of EUR 10 million. Further improvements that were agreed include a reduction of annual working hours (from 1,792 in 2023 to 1,774 in 2026), an increase in vacation time (up to 32 days starting in 2025), and the addition of 4-day leave for personal reasons, which can be taken consecutively with prior agreement from the company (Govern de les Illes Balears, 2023).

The role of company-level initiatives is also notable in Member States where sector-level bargaining coverage is relatively low, as in Poland (Boxes 8 and 9).

Box 8: Single-employer collective agreement for nursing home employees (Poland)

The intervention consisted of negotiating a company collective agreement for workers of the nursing home (an LTC facility for people with mental illness) in Częstochowa, a medium-sized city in southern Poland, in 2013. It is extremely rate to conclude a collective labour agreement in this sector in Poland. There are probably only a few (perhaps two or three, whose continued validity is hard to confirm) such agreements nationwide. The document accompanied a multi-company agreement – no longer in force – concluded for all social welfare facilities in the city of Częstochowa.

While the inter-company agreement mainly guaranteed workers timely negotiations on wage increases for the following year, the agreement in force at the social welfare home provides for three additional days of paid annual leave, in addition to some minor modifications to the working conditions associated with the provisions of the Polish Labour Code. The condition for the additional leave is a minimum of six years of service at the facility. Unused additional leave is not transferred to the following year.

Extending paid holiday leave by three days per year is a minor but important factor for many workers in improving their mental (and physical) well-being in relation to the general work overload. At the same time, it is a concession on the part of the employer (local authorities), in view of staff shortages. The conclusion of a collective agreement is a rare example of valuing workers' voices and social dialogue (Institute of Public Affairs, n.d.).

Box 9: Evaluation of care standards and working conditions (Poland)

In response to the structural challenges of the care sector in Poland, the care facility in Toruń (western Poland) has introduced a permanent system for evaluating and monitoring the quality of services and working conditions.

The Polish care sector faces numerous structural difficulties, such as labour shortages, a lack of suitably qualified staff, low wages, physically and mentally demanding work (including shift work), a high average age of staff approaching 60 (the retirement age for women in Poland), insufficient specialist equipment (especially lifts for bedridden patients) and professional burnout.

To anticipate current and future risks and respond to at least the most pressing challenges, the management of the care facility in Toruń constantly monitors the quality of services provided and working conditions. In this way, it can direct the limited resources to the most critical areas.

To address the problem of labour shortage, the DPS cooperates with the local employment office to search for care workers and supplements their qualifications by providing a full training package (care for residents with different needs and multiple illnesses, on-the-job training, psychological training including dealing with aggressive residents, and safety and health training). The prerequisite for employment is secondary education and a willingness to work at the care facility.

In addition, the management of the care facility works closely with trade unions (a rarity in this sector) to advocate at the local and central government levels for external funding or policy changes to improve working conditions and raise standards of care.

As a result of these joint efforts, various items of equipment (lifting machines) have been acquired. Training for workers has been funded, which has led to greater professionalism and helped to address the problem of labour shortage. Furthermore, changes have been made to the law (in cooperation with national trade unions) on the statutory ratio of patients per caregiver.[8]

2.3.4 Structural interventions targeting OSH aspects

Some Member States have implemented measures that address physical and psychosocial risks and improving OSH standards in LTC settings. These measures include the development of specific tools for assisting companies in risk prevention and management at the workplace level by public authorities (Boxes 10 and 11) and social partners (Box 12). In Belgium, the Well-being at Work Tool targets workers in the non-profit sector and focuses on preventing and managing burnout risks, supported by national and European funding through a partnership between public authorities and ABBET, the Brussels association for well-being at work. Complementing this initiative, the Grenswijs (boundaries) programme specifically addresses aggression management in care and service sectors by providing information, tools and sector-specific support to help prevent abuse and better handle incidents. Key features include a website, clear reporting procedures and tailored pedagogical frameworks designed to reduce inappropriate behaviour towards care recipients and providers (Grenswijs, n.d.; InGoodShape, 2026).

Box 10: EasyMAPO – Online tool for MSK risk prevention in residential care facilities (Spain)

The residential care sector in Navarra, Spain, employs nearly 11,000 people and has reported 1,600 workplace accidents resulting in sick leave and 1,300 without sick leave over the past five years. Of these incidents, 58 % and 40 % were attributed to overexertion related to lifting or moving residents, respectively. In response, the Navarra Institute of Public and Occupational Health (Nafarroako Osasun Publikoaren eta Lan Osasunaren Institutua, ISPLN/NOPLOI) has recently developed an online application called EasyMAPO. Based on the Mobilisation of Hospitalised Patients (MAPO) method, the tool enables managers in residential care facilities to identify and assess the risks associated with these tasks and prioritise actions to mitigate injuries, which predominantly affect the back and upper limbs (Government of Navarra, n.d.).

Box 11: The TMS Pros programme – Supporting MSDs prevention in nursing homes (France)

The TMS Pros programme is a French initiative launched in 2014 to address the high prevalence of MSDs and associated working days lost in the residential care sector. The programme provides a structured approach to guide organisations through comprehensive prevention. It assists organisations with assessment of the impact of MSDs, the design of preventive interventions and the implementation of tailored solutions, including training on proper patient-handling techniques and the use of technical aids. It also provides financial support for the acquisition of equipment and other prevention initiatives (EU-OSHA, 2025j).

The TMS initiative has had significant positive impacts across nursing homes that benefited from the interventions. Results of the assessment of the initiative by the regional social security fund CARSAT Aquitaine for the period 2016-2022 showed that the intervention resulted in a marked decrease (of 50 %) in the frequency index of handling-related work accidents, avoiding approximately 164 accidents that would have otherwise occurred across participating establishments. Additionally, the implementation of the programme resulted in a 40 % reduction in the number of days of paid leave, which equates to an estimated 76,000 days of MSDs-related sick leave.

[8] For more information see case study *Evaluating working conditions in residential care: a participatory approach from Poland*, available at https://osha.europa.eu/en/publications/evaluating-working-conditions-residential-care-participatory-approach-poland

Significantly, the programme emerged as a cost-effective intervention. Since 2016, the difference in accident costs between participating and non-participating establishments has resulted in savings of approximately EUR 6 million. This financial return strengthened management's commitment to the programme, with two-thirds of facility directors evaluating the prevention programme as economically advantageous. Managers who were surveyed also reported that the programme had contributed to improved workplace attractiveness (CARSAT Aquitaine, 2024).

Box 12: Occupational safety checklists (Finland)

The trade union for practical nurses, SuPer, together with its social dialogue and other partners, has been involved in developing tools to assist in everyday work situations. Two of these consist of checklists for ensuring safe working conditions and worker well-being. The first checklist helps to clarify occupational safety issues. It is intended to assist in everyday workplace activities and aims to make information more easily accessible. The purpose of the second checklist is to provide a concise summary of basic issues and sources for use in the workplace. Mastering the basic issues on the checklist helps create a foundation for well-being and a healthy and safe workplace.

The checklists have been developed by a working group on well-being at work in the private social services sector, but they are available for all workplaces.

These practical tools aim to ensure a certain level of awareness and knowledge of OSH requirements and the rights of workers (SuPer, n.d.).

Portugal has adopted a targeted approach to address violence in LTC settings. The active and healthy aging action plan 2023-2026 is a strategic policy that defines concrete, approved activities with allocated funding for implementation between 2023 and 2026. A key priority of the plan is providing training for caregivers and care recipients on the topic of violence, with a focus on promoting its detection, reporting and preventive action, while also emphasising the adaptation of workplaces and the application of the highest standards of OSH in the LTC sector. Austria has implemented innovative time credit mechanisms designed to reduce the cumulative physical and mental strain experienced by care workers. Since 2023, care professions, including qualified nurses, nursing assistants and specialist nursing assistants, have been entitled to an additional week of paid leave when they reach the age of 43, regardless of their years of service or work setting across hospitals, nursing homes and mobile services. Additionally, since 2023, all workers in institutional LTC have received two hours of time credit for heavy night work. This is intended to promote longer recovery periods and reduce the mental and physical stress associated with night shifts (InGoodShape, 2026). Other examples identified in the course of this research show ongoing cross-national cooperation between public and private stakeholders focusing on the exchange of knowledge, innovation and best practices in residential care for older people (Box 13).

Box 13: Franco-Danish Alliance for Senior Citizens and Autonomy (cross-national)

The alliance brings together public and private actors from France and Denmark, under the auspices of the Danish Embassy, which is committed to improving the quality of life for older adults and the working conditions of caregivers. This cooperation is the result of more than 10 years of exchanges. It is based on sharing expertise and know-how between the two countries, particularly in the area of innovative assistive technologies, and on joint reflection on the challenges facing the residential care sector. By combining innovation and a culture of prevention, it contributes to the evolution of practices and the strengthening of health and social care systems, through a continuous improvement approach centred on people.

Trade union organisations also play a crucial role in enhancing OSH standards in the sector. They lead awareness campaigns that empower workers with knowledge about risk factors and preventive interventions (Boxes 14 and 15).

Box 14: Safe Professions project (Italy)

The Safe Professions project was initiated by the CGIL Modena local branch in 2022. It was established in response to a surge in MSDs among workers in the LTC sector, who increasingly sought union support after medical evaluations prescribed work restrictions due to health problems, often leading to unpaid leave, reduced hours or dismissal.

The project's main goal is to use individual protection requests as a tool to challenge employers' organisational strategies that negatively impact working conditions. Instead of settling for individual exit agreements, the union aims to pressure employers to negotiate better workforce management practices, such as establishing regular schedules and ensuring adequate rest. Key strategies include systematic data collection on health issues, training union representatives, organising workplace assemblies and strategically using lawsuits to contest dismissals and expand the legal definition of occupational diseases in the care sector. Ultimately, the project seeks to transform individual grievances into collective action, increase and engage union membership, and frame worker health as a public policy issue requiring systemic solutions through local collective bargaining and public awareness campaigns (DEVCOBA, n.d.).

Box 15: Trade union campaign on PSR in residential LTC settings (Spain)

The sectoral national federation of social and health services of the Spanish Workers' Commission trade union (FSS-CCOO) is currently developing a strategy among its representatives at the workplace level to raise awareness of PSR factors in residential LTC settings following the Covid-19 pandemic. This initiative has brought attention to emerging OSH risks in the sector, particularly self-medication and the rise in psychotropic drug consumption to cope with challenging physical and psychosocial work conditions.[9]

Other examples of interventions identified in the course of this research were designed to promote safer and healthier work environments, while also contributing to enhanced workers' retention and quality of care. These examples integrate research and practical interventions or project implementations to improve health promotion practices (Boxes 16, 17 and 18).

Box 16: QualiPEP – improving prevention and health promotion in LTC and facilities for persons with disabilities in Germany

QualiPEP is a four-year, federally funded research and implementation project in Germany (2017-2021) aimed at improving quality-oriented prevention and health promotion in LTC and facilities for persons with disabilities. The initiative responds to demographic change, rising care needs, workforce shortages and substantial physical and psychological strain experienced by care staff. Recent legislative reforms in Germany, including the Präventionsgesetz, Pflegestärkungsgesetze, Bundesteilhabegesetz and Pflegepersonalstärkungsgesetz, have expanded the responsibilities of care providers and insurers for prevention, health promotion and the strengthening of health literacy.

QualiPEP focused on three tightly interlinked objectives:

- develop and pilot a quality assurance concept for prevention and health promotion in care facilities, including clear criteria, instruments and indicators tailored to institutional LTC;
- strengthen health literacy among residents, workers and organisations by creating a framework that supports accessible information, user-friendly structures and health-promoting environments;

[9] For more information see case study *Your rights, the best medicine: union campaign to reduce psychotropic drugs in residential care*, available at https://osha.europa.eu/en/publications/your-rights-best-medicine-union-campaign-reduce-psychotropic-drugs-residential-care

- expand and professionalise workplace health promotion (BGF) in care organisations to improve working conditions, worker well-being and organisational capacity.

The project adopts a holistic, participatory and theory-based model aligned with the public health action cycle to improve quality of life for care recipients and staff. QualiPEP focuses simultaneously on prevention, workplace health promotion and health literacy. It integrates behavioural and environmental (*verhältnisbezogene*) measures while avoiding duplication of structures by aligning with existing regulations and standards. The project involves all relevant stakeholders, including residents, staff, management, experts and insurers, through interviews, workshops and surveys.

The quality development process consists of five phases. The first phase, needs assessment, involves analysing existing research, secondary data on residents and workers, facility conditions, and organisational structures to identify resources and barriers. The second phase, concept development, formulates strategies based on the assessed needs, existing guidelines (such as GKV-Litracen), and scientifically established quality dimensions, including structure, process, concept and outcome.

The third phase, implementation, pilots interventions and quality tools in selected care facilities. This is followed by the evaluation phase, which assesses the effectiveness, feasibility and sustainability of the interventions. Finally, the adjustment phase refines the quality instruments and implementation strategies based on the evaluation results.

QualiPEP aims to generate evidence-based, practical tools for quality assurance in prevention and health promotion. It seeks to create stronger and more coherent health-promoting structures in care institutions, improve health literacy at organisational and individual levels, enhance working conditions and reduce strain for care staff. Ultimately, the project strives for a measurable improvement in the quality of life for residents and workers (Tempelmann, 2019; AOK, n.d.).

Box 17: Mitä kuuluu? (How are we?) study (Finland)

The project aims to promote well-being at work in the welfare sectors and thereby extend the careers of professionals in social care, healthcare and emergency services. It also aims to increase the attractiveness of the sector and its ability to retain staff. The study is part of a long-term research project at the Finnish Institute of Occupational Health (FIOH) to develop well-being at work. At the core of the study is a well-being at work survey that measures factors such as psychosocial stress, recovery, the functioning of the work community, fair leadership, organisational changes and work ability. The survey is conducted annually (October to November) and can be adapted to an organisation's needs. FIOH is responsible for data collection, data security and reporting. Participating organisations receive an analysis of the current level of well-being at work by FIOH experts and get recommendations on how to proceed in further development.

The results are accessible through a results portal that is available to participants. It enables organisations to analyse their own data, compare it with other welfare areas and monitor development measures. These results serve as a foundation for strategic management of well-being and work ability, help identify early signs and development needs to enhance the working environment, support research and development projects in the social and healthcare sector, and allow comparisons with national reference data from over 40,000 respondents. FIOH also compiles an annual research report and uses the material in further research and to have a social impact.

According to the results presented in FIOH's report comparing 2024 and 2023 results, positive developments were seen in well-being at work in social care and healthcare, particularly in actions of managers and supervisors, and in cooperation within work communities. However, challenges include reduced work ability, poor recovery, mental strain and a high level of employer turnover. Key areas for development include managing work stress factors, reducing inappropriate treatment and improving change management. Proactive measures to support work ability, engage young people, provide orientation and offer interesting career opportunities are needed to strengthen retention (Finnish Institute of Occupational Health, 2025).

Box 18: Hyvä veto project (Finland)

The Finnish Institute of Occupational Health's 2023 Hyvä veto project focused on attracting and retaining care workers for older people. The objectives of the project were to make it more attractive to work with older people, improve well-being at work and work ability, and extend working careers. The objectives were implemented through regional multi-stakeholder development projects utilising existing research data and studies that made use of quantitative and qualitative research approaches. The project developed leadership based on coaching, an ethical organisational culture and career management for people of different ages. It also strengthened the knowledge base for extending working careers in care for older people.

Among other research material, the project used Mitä kuuluu? survey material and investigated psychosocial workloads in care for older people. A survey was also conducted as part of the project, mapping aspects such as managers' and workers' experiences of workloads. The results are presented separately for residential care (and other forms of care) in the final report of the project.

The Hyvä veto project produced a situational picture of well-being at work among personnel working in care services for older people (residential and home care) and the factors affecting it. The project led to a model called *Vanhustyön vatupassi*, which provides online educational material for supervisors of care services for older people, to better manage ethical burdens. The project's operating model was modified to enable its use as a tool for developing work and well-being at work in the new well-being services counties. The *Vanhustyön vatupassi* model was made public in January 2023 on the FIOH website (Finnish Institute of Occupational Health, 2023).

3 OSH risks and safety and health outcomes of residential care workers

This chapter focuses on safety and health outcomes and OSH risks in the residential care sector. The first section provides a general overview, with a focus on prevalence data. The second section summarises the literature review on OSH risks. The third section presents the findings of the academic literature review on safety and health outcomes.

3.1 Overview

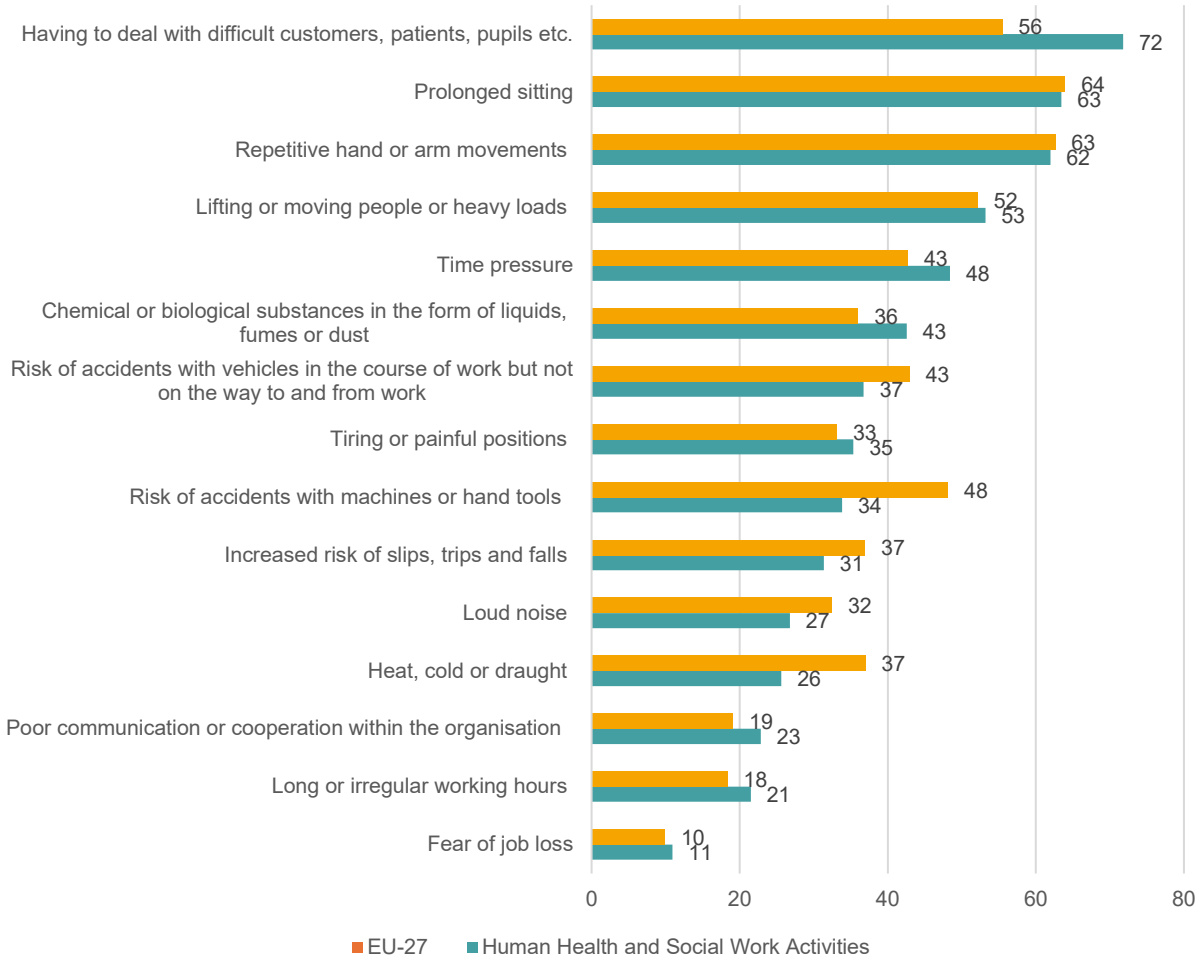
Work-related health issues are a major concern across the HeSCare sector, and notably in the LTC workforce. These issues also have significant implications for the quality of care and the sustainability of care systems, which are two main policy challenges across EU Member States. Current labour shortages and high turnover result from increasing demand for care workers, poor employment and working conditions and a highly demanding work environment, which also negatively affects the safety and health of LTC workers.

Concerns about the prevalence of health issues among LTC workers are not new. An OECD report (2020) warned that 15 % of LTC workers across OECD countries reported experiencing physical or mental health issues in 2013, compared to 12 % of hospital workers and 8 % of the general population. Despite substantial cross-country variability, the analysis revealed a strong correlation between physical and mental health issues. The study also found that LTC workers faced higher risks of work-related accidents and injuries than hospital workers, and higher sickness absence rates than the national averages.

Data from ESENER 2024 also highlight the extent of health issues in the HeSCare sector. MSK risks emerge as the most commonly reported risks by establishments surveyed in the HeSCare sector. Specifically, 53 % of establishments identified lifting and moving people or heavy loads, and 62 % reported repetitive hand or arm movements as risk factors. Both figures align with the EU-27 average. Significant differences within the HeSCare sector are observed when other survey data are considered based on workers' self-reports. According to the European Working Conditions Telephone Survey (EWCTS 2021), residential care workers were more exposed to frequent lifting or moving people (62 %) and carrying heavy loads (49 %) than other workers in healthcare and social work subsectors. Their exposure to tiring or painful positions and repetitive hand or arm movements was similar to that of workers in healthcare settings, and significantly higher than that of those in the social work subsector (EU-OSHA, 2024b).

Compared with other sectors, HeSCare sector establishments show higher levels of exposure to PSR factors. ESENER 2024 indicates that the most prevalent issue is having to deal with difficult clients or patients (reported by 72 % of establishments surveyed compared to 56 % of the EU-27 average), followed by the experience of time pressure (48 % and 43 % respectively). These results coincide with previous evidence from the EU Labour Force Survey (LFS 2020) that highlights these two issues as the most prevalent PSR exposures in the HeSCare sector, particularly affecting healthcare and residential care workers (EU-OSHA, 2024b).

Figure 2: Types of OSH risks indicated by establishments in the HeSCare sector, 2024



Source: EU-OSHA, ESENER 2024.

The Covid-19 pandemic exacerbated these issues, as many care workers in hospitals and residential care homes had to endure the physical and emotional strain of being on the front line. Data collected in 2020 (LFS) revealed that 24 % of HeSCare workers in the EU-27 reported mental health issues (stress, depression and anxiety) as the most important work-related health problems, while 56 % reported MSDs (EU-OSHA, 2024b). In this context, 48 % of HeSCare workers reported that their health or safety was at risk due to their work (EU-OSHA, 2024b).

It is concerning that the situation in the residential care sector has not improved since the pandemic. In 2024, nearly half of residential care workers (46 %) reported that their safety and health were at risk because of work (EWCS 2024). This percentage has remained constant over the past four years (EWCTS 2021 indicated similar results). Further analysis reveals that residential care workers are more likely than other HeSCare workers to perceive their work as posing risks to their safety and health (Box 19).

Box 19: Further evidence on the negative impact of work on health in the HeSCare subsectors (EWCS 2024)

In the EU-27, residential care workers are twice as likely to perceive their safety and health as being at risk due to work (odds ratio [OR] = 2.12) as those who do not work in HeSCare. Healthcare workers also face significantly higher risks (OR = 1.65), while those in social work experience a more moderate yet still notable elevated risk (OR = 1.27). These findings highlight a consistent pattern across the

HeSCare sector, with residential care standing out as the sector where workers perceive the most substantial negative impact of work on their health.

Crucially, these associations remain significant after accounting for a wide range of individual and job characteristics, including sociodemographic factors, occupation, employment status, seniority, working time arrangements and establishment size.

This indicates that the higher exposure to work-related health problems in HeSCare, particularly in residential care, is not merely attributable to differences in workforce composition or employment and working conditions, but also to the nature of the work.

For further details, see the Appendix, Figure A1.

Source: Notus, EWCS 2024.

Residential care workers face substantial physical and emotional strain due to the nature of care work. Work in residential care settings often involves assisting patients with more complex needs than patients who receive care at home. They may have physical dependencies, cognitive impairments and behavioural challenges that require physical effort and complex management of personal emotions. Drawing on EWCTS 2021, residential care workers are more often required to lift and transfer patients than healthcare workers. They also report being more frequently involved in emotionally disturbing situations or facing threats or violence from patients or their relatives compared to workers in other HeSCare subsectors (EU-OSHA, 2024b).

The physical and emotional demands inherent to care work are further exacerbated by organisational factors. LTC workers often complain of high workloads and limited time with patients. This undermines their sense of control over the job and leads to feelings of overload. Residential care workers (24 %), along with healthcare workers (27 %), report significantly higher levels of exposure to severe time pressure than workers in the social work subsector (EU-OSHA, 2024b). Increased work intensity results from understaffing and changes in work organisation practices. In many countries, reforms and budget constraints have intensified the administrative burden on care workers, limiting their time for effective care delivery, according to workers' professional judgement. In addition, residential care workers are often required to take on responsibilities beyond their formal roles. They experience lower levels of social support and organisational participation than their counterparts in the healthcare and social care subsectors (EU-OSHA, 2024b).

Another relevant feature of work in both residential and hospital settings is the need to provide care 24 hours a day, 7 days a week. Burdensome working times, such as having to work at short notice, shift work, or night and weekend shifts, are one of the main drawbacks of the working environment. Data from EWCTS 2021 showed that working night shifts is more common among residential care workers (27 %) and healthcare workers (33 %) than among home care workers (14 %) (EU-OSHA, 2024b). A large share of workers in the residential care sector (22 %) and healthcare (25 %) report an unsatisfactory work-life balance (EU-OSHA, 2024b). Atypical working conditions are one of the main determinants of work-life conflict among LTC workers (OECD, 2020). Work-to-life interferences also arise from excessive quantitative demands that drain workers' emotional and physical resources, compromising their ability to engage in personal and family life (Care4Care, 2025).

Attention should also be drawn to co-exposure of PSR and MSK risks, which is particularly salient in residential care settings (36 % of residential care workers are co-exposed to such risks) (EU-OSHA, 2024b). PSR factors are strongly associated with MSDs in nursing work, even when physical demands are controlled for (OECD, 2020). The high exposure of residential care workers to this combination of risks may be influenced by factors such as time pressure and high emotional demands. Evidence indicates that PSR factors like low social support, stress, burnout, anxiety and effort-reward imbalances can cause or worsen physical ailments such as MSDs. Conversely, MSDs can amplify the impact of the psychosocial work environment, creating a detrimental cycle that underscores the need for integrated interventions that address both musculoskeletal and psychosocial risks (EU-OSHA, 2025k).

Further analysis of EWCS 2024 largely substantiates these findings (Box 20). Overall, the results indicate that all job quality dimensions are strongly associated with the perception of safety and health risks. They include physical and emotional strain, and organisational aspects such as high quantitative

demands, poor working time conditions, a lack of autonomy and participation, and a lack of supervisory support. Moreover, job insecurity and perceptions of unfair wages and a lack of career prospects also have an influence.

The analysis reveals that having a supervisory role is strongly associated with the perception of negative health impacts, an aspect which is relatively under-researched. In this regard, a recent survey-based study conducted across six EU countries revealed that care workers with supervisory roles face significant risks due to high quantitative demands, working at a high pace and under pressure, and often performing tasks beyond their formal duties (Care4Care, 2025).[10]

The analysis confirms that prolonged work in residential care leads to higher perceived health strain, one of the factors that contributes to high rates of turnover in the sector. Interestingly, older workers (55 years or more) are less likely to report negative health impacts than the youngest workers. This may reflect selection effects, whereby only healthier older workers remain in the sector. Finally, as already indicated in other studies (for example, EU-OSHA, 2024b), women are twice as likely as men to report negative health impacts.

Box 20: Further evidence on the negative impact of work on health in the residential care sector (EWCS 2024)

- **Job quality dimensions**

Physical environment: residential care workers under physical strain are five times more likely to report that their safety and health are at risk because of work than their counterparts.

Social environment: a lack of support from supervisors is strongly associated with the perception of negative health impacts.

Working time quality: no recovery time, not being able to take a break and difficulty taking a short time off are associated with the perception of negative health impact. The same holds true for irregular schedules communicated by the employer on the same day or the day before.

Work intensity: insufficient time to do a job, handling angry clients and being in emotionally disturbing situations significantly increase the likelihood of reporting negative health impacts.

Skills and discretion: low task autonomy and not being consulted before objectives are set on aspects of work are significantly associated with negative health impacts.

Prospects: the perception of poor career advancement prospects is strongly associated with perceived negative health impacts.

Earnings: feeling inadequately paid for your effort and achievements is strongly associated with reporting negative health impacts.

- **Supervisory role and seniority**

Supervisory roles stand out as one of the most influential factors: supervisors are more than three times as likely as non-supervisors to report that their job negatively affects their health.

Seniority also plays an important role. Workers with 1-5 years of experience have more than double the odds of reporting negative health impacts compared to newcomers, and those with five years or more of experience have over four times the likelihood. This suggests that prolonged exposure to the demands of residential care accumulates into higher perceived health strain.

[10] The sample comprised 226 home health aides (domestic and outpatient nursing and care staff without specific training who care for or look after older, sick or other persons in need of care at home), 202 basic care workers (nursing and care staff who work in hospitals, retirement homes, nursing homes or day care centres who have been trained on at least one short course) and 268 professional care workers (specialists in the nursing or healthcare sector with vocational training or a bachelor's degree).

- **Employment status**

Workers on temporary contracts are twice as likely as those with permanent contracts to report that their job harms their health.

- **Sociodemographic aspects**

Women are twice as likely as men to report negative health impacts, while older workers (55+) are less likely to do so than the youngest group. This may reflect selection effects (only healthier older workers remain in the sector) or different perceptions and expectations about work-related strain.

For further details, see Appendix, Figures A3-A9.

Source: Notus, EWCS 2024.

Interviews with stakeholders largely support these findings. Concerns about the prevalence of MSDs and mental health issues are widespread. Stakeholders stress that manual handling of residents is a major contributor to MSDs and sickness absence in the sector, with the level of physical exertion varying according to the dependency profile of service users. Despite significant progress in the availability of assistive equipment, union representatives noted that many residential care facilities either lack lifting devices or workers do not use them appropriately because of time constraints. For example, it takes considerable time to place a person in a lifting device. Consequently, many workers end up directly lifting and turning residents. A trade union representative who was interviewed noted that residents may weigh 100 kg or more, whereas in the construction sector, regulations limit lifting to a maximum of 20 kg. Given how ergonomics works, if a worker is in a certain position, the weight applied to the spine exceeds the person's actual weight. Based on official figures from the French Insurance Fund (Assurance Maladie), a managerial representative revealed that the workplace accident rate in the LTC sector is three times higher than in the construction sector (Assurance Maladie, 2020). The severity of workplace accidents in the residential care sector is also shown by higher levels of sickness absence, which create challenges for both workers and the managers in charge of facilities.

Physical strain accumulates over years of work. The risk of future disability or reduced work ability is heightened by staffing shortages that prevent workers from working in pairs, and organisational factors such as inadequate infrastructure (narrow corridors, poor maintenance of assistive equipment) that result in overwork, fatigue and increased risks of trips, falls and injuries.

PSRs have become a significant concern in the sector, particularly in relation to burnout amid the ongoing staff recruitment and retention crisis and the intensification of workload. Workers also face emotional strain and may encounter aggressive behaviour among residents or their families. Care work in LTC facilities frequently involves dealing with the death of residents that workers have been assisting for long periods and with whom they have developed personal relationships. However, as the profile of the resident care population has evolved, with a growing number of individuals living longer with critical conditions and complex needs, such as dementia, there has been an increase in workers' reports of experiencing violence and aggression.

Psychosocial pressures are also intensified by organisational factors, namely understaffing and time pressure. Usually, workers face moral dilemmas about the quality of care they provide when they are unable to meet residents' needs due to time constraints. Feelings of frustration or moral distress should be framed in the context of residential care settings, where workers often support people with severe disabilities or dementia who have limited potential for improvement. An emerging issue reported by trade union representatives refers to the use of digital surveillance tools, such as cameras, to monitor workers inside nursing homes. In addition, social network communications extend work beyond formal hours, so workers never disconnect. They are informed about any change in the status of residents they care for or changes in their shifts without the minimum notice period required by the collective agreement. Another concerning emerging trend revealed by interviewees relates to drug use among residential care workers. An increasing number of workers use medication to cope with physical and psychosocial strain in the absence of preventive interventions that address underlying work organisation issues.

The managerial representative who was interviewed noted that, while a lot of attention is focused on workers, managerial and supervisory staff also face significant exposure to PSRs related to their

management responsibilities. These PSRs are often overlooked and deserve the same recognition. According to the interviewee, the primary stressor for facility managers is the 'almost insoluble' nature of the problems they have to deal with, particularly financial constraints and staff shortages, which have a moral and psychological burden. This is exemplified by a director's metaphor: 'My establishment is a boat taking in water. I bail water out, I bail and bail, but it continues to sink.'

Another managerial representative pointed to an apparent paradox in workers' preferences for work schedules. Although a 12-hour shift is associated with higher risks of injuries due to poor recovery and fatigue, care workers still show a marked preference for this type of schedule. This is because extended shifts enable workers to work just two or three days a week, offering a significantly improved balance between work and personal life.

3.2 OSH risks

This section reviews the research literature on OSH risks in residential care settings, focusing on three main categories: MSK risks; PSRs; and physical, chemical and biological risks. It highlights the physical demands inherent in LTC tasks, notably the manual handling of patients, as well as the influence of psychosocial and organisational factors on workers' perceptions of physical strain. The review further explores PSR exposure, including high quantitative demands and time pressure, emotional demands, and exposure to adverse social behaviours like third-party violence and harassment. Finally, it addresses exposure to physical risks such as slips, trips and falls, as well as chemical and biological hazards related to cleaning agents and infectious diseases, emphasising the complex and multifaceted nature of OSH risks in residential care settings.

3.2.1 Musculoskeletal risks

Work-related MSK risks include physical and biomechanical factors, which alone or in connection with psychosocial stressors can lead to injuries and MSDs (EU-OSHA, 2024b). A literature review by Lögdal et al. (2025) on quantitative assessments of physical demands in LTC work (including home care and residential care) highlights that eldercare work is perceived by workers as having moderate to high physical demands. Tasks like patient lifting and transfer were consistently reported as the most demanding. This is confirmed by studies using biomechanical models, showing that tasks such as patient lifts and transfers frequently exceed recommended safe limits for maximal acceptable compressive forces on the back, potentially leading to strain and injury. Other studies using direct measurement techniques show that LTC workers spend a large part of their working day on their feet – between half and two-thirds of their shift – although the average cardiovascular load (heart rate and oxygen uptake) remains low. This suggests that perceived exertion in LTC work is more influenced by biomechanical strain on muscles and joints from prolonged standing and awkward postures than by high-intensity aerobic activity. The findings of the review indicate that LTC work could be organised to allow more task variation and more sitting opportunities during shifts. For instance, tasks that can be performed seated can be identified and longer rest periods allowed between tasks that require prolonged standing or manual handling. Assistive devices can also reduce exertion during patient transfers, if the employer ensures that these are properly integrated and consistently used in daily workflows.

Sepp et al. (2015) provided objective evidence of muscle fatigue using electromyography (EMG) testing among Estonian nurses and caregivers on their thumbs. They observed substantial accumulation of fatigue in the abductor pollicis brevis muscle over an eight-hour shift, even during tasks that are not traditionally seen as physically demanding. The study also highlighted relevant facility-level factors: modern nursing homes equipped with adequate lifting devices and better-designed spaces reported lower perceived strain, whereas older or poorly adapted buildings were associated with a faster work pace, insufficient support and frequent ergonomic challenges. Despite these challenges, workers often did not perceive their job as physically demanding, which suggests a degree of normalisation of high physical load.

There is extensive research evidence on the links between manual handling and transfer of patients and the high prevalence of low back injuries in residential care settings, as well as the protective effect of using assistive devices. Findings from a comprehensive study on nursing staff in Italy (N = 14,246) revealed that nurses working in nursing homes faced significantly higher risks associated with patient handling than those in hospital settings. These differences were explained by higher ratios of disabled

patients per nurse and the underutilisation of assistive equipment, which resulted in higher frequencies of manual handling of patients (Menoni et al., 2022).

Research conducted by Karstad et al. (2022) in Denmark, based on observational data from the DOSES project (N = 549), shows how workers' decisions on the use of assistive devices are influenced by environmental or contextual factors. These are related to the organisation, the type of tasks and workers, or the resident characteristics. A lower resident-to-staff ratio is associated with significantly lower odds of using assistive devices during resident handling. This indicates that heavy workloads and time pressure may lead workers to avoid the use of assistive devices, even when they are available. However, the most significant factor explaining the use of these devices was related to the specific care situation, such as the type of tasks and the resident's condition. Assistive devices are mostly used for more demanding tasks (such as transferring patients from bed to chair) but much less for repositioning or turning them, which are generally perceived as less-demanding tasks for which workers can rely on colleagues' assistance. Conversely, the study found that individual characteristics, such as a worker's age, did not have a significant impact on their decision to use a device, once organisational and situational factors had been considered. These findings suggest that interventions for increasing the use of assistive devices should not only focus on training, but also address other critical issues like staffing levels and promoting safety practices for all types of handling tasks, such as 'zero-lifting' policies or guidelines.

Beyond objective biomechanical strain, the way residential care workers perceive quantitative demands and their ability to manage them is largely influenced by psychosocial and organisational factors. Drawing on data from the DOSES project, Neupane et al. (2020) found that subjective occupational physical activity was a more significant predictor of individuals' multi-site MSK pain than objective measures. Workers reporting high physical demands had 24 % increased risks of developing MSDs compared to those reporting low demands. However, no significant association was found for objectively measured physical demands. This is explained by the fact that subjective measures reflect other aspects of job demands that objective measurements do not capture. Another DOSES project-related study by Stevens et al. (2022) showed that most of the variability (90.9 %) in perceived quantitative demands was due to differences among individual workers on the same wards, rather than differences between wards or between nursing homes. These findings suggest that individual worker characteristics and experiences are the main drivers of perceived quantitative demands. Furthermore, perceived quantitative demands are influenced by psychosocial work environment factors, such as time pressure or social support, rather than by physical demands, such as the number of resident handling or push/pull tasks. However, the researchers noted that most of the factors that influence individual differences, like leadership quality and control on the job, are also shaped by organisational factors and can be addressed through workplace interventions.

Similarly, Januario et al. (2019) showed that residential care workers' perceptions of physical exertion were associated with specific psychosocial working conditions at workplace and ward levels. Nursing homes characterised by higher levels of influence on the job and better quality of leadership were associated with workers reporting lower levels of physical exertion. That is, better opportunities for workers to plan their work and responsive managers can contribute to reducing physically strenuous and uncomfortable tasks. In another related publication, Kyriakidis et al. (2021) examined the role of each organisational level in the number of resident handling tasks and whether these factors varied between evening and day shifts. The study found that while the most determining factors for patient handling activities were staff ratios and the higher share of residents requiring physical assistance, significant differences emerged between shifts. The main source of variance in the number of resident handling tasks during day shifts was explained by factors related to an individual worker's occupational position and changes in daily tasks. In contrast, in evening shifts the variation was more influenced by ward-level organisational factors, which likely reflect higher staffing ratios in evening shifts than in day shifts (7.5 and 3.4 residents per worker respectively), which makes ward-level factors more influential. The authors conclude that interventions to reduce resident handling should target different organisational levels, such as increasing the staff-to-resident ratio per shift or improving the allocation of resources in wards.

3.2.2 Psychosocial risks

- **High quantitative demands: workload and time pressure**

Research consistently identifies high quantitative demands and time pressure as primary OSH risk factors in the HeSCare and residential care sector (EU-OSHA, 2025k). The psychosocial work environment in residential care facilities has been transformed significantly over the last few decades (Stewart et al., 2023). One fundamental change has been a growing reliance on care assistants for direct care provision in nursing homes. This is a response to staff shortages in the LTC sector, which, in turn, has led to changes in the role of nursing staff. While nurses are still responsible for direct care, their role has been increasingly expanded to more supervisory and administrative functions, often without adequate time and resources. The increasing complexity of care plans required by residents, along with the growing emphasis on performance measurement, has further pushed nurses away from direct care towards documentation and administrative tasks.

The expansion of nurses' job demands has resulted in increased workload and time pressure. Nurses report feeling they do not have enough time to supervise care assistants and complete their regular direct care duties. Management and administrative tasks are often considered burdensome, a key predictor of intent to leave, a major source of stress and a direct contributor to job dissatisfaction (Stewart et al., 2023). A study by Ausserhofer et al. (2023), based on large-survey data from the 2018 Swiss Nursing Homes Human Resource Project (SHURP), revealed that administrative burden is widespread among nursing home care workers, with 73.9 % of participants (N = 2,207) feeling burdened by administrative tasks. Nearly half of registered nurses reported spending two hours or more during a normal day performing administrative tasks, with filling out residents' health records being the most burdensome task. Care workers who reported higher administrative tasks were also more likely to experience job dissatisfaction, emotional exhaustion and turnover intentions. However, the findings highlight that this association is also influenced by more relevant factors, notably staffing adequacy and time pressure. Case studies conducted in nursing homes in Canada showed how new public management work organisation methods tend towards the intensification and extensification of care work. This is achieved by excluding from working time calculations essential care tasks related to building relationships with residents, such as sitting and conversing with them. Consequently, many essential care activities are not documented in working time metrics, resulting in unpaid working hours (Baines & Armstrong, 2019).

Some studies have examined the implications of the psychosocial work environment for groups of residential care workers. A recent study using survey data (N = 1,521) from the Flanders Nursing Home project provides insights into perceptions of the psychosocial work environment across professional groups in residential care settings (Geyskens et al., 2025). The study revealed significant differences in the challenges experienced by direct care workers compared to other groups. Registered nurses and care assistants, who together represent more than two-thirds of the total workforce, perceived the greatest staff inadequacy and higher workloads, compared to support staff, health professionals and team leaders. Staffing adequacy was perceived least among care assistants, with only 16.7 % agreeing that there were enough staff to get the work done (compared to 46.5 % of team leaders). Registered nurses also noted staffing concerns, with fewer feeling there was enough time to discuss problems with colleagues (30.8 %) and 66.7 % reporting that they often had to work harder. Care assistants faced the greatest challenges in terms of their occupational well-being, showing the highest turnover intentions and burnout risks (24.1 %).

Other studies consider differences in the perceptions of work environment among residential care workers with a migrant background, yielding mixed results on their well-being and job satisfaction. Working in nursing homes is experienced as a physically and emotionally demanding job. Migrants face additional challenges stemming from the stress of adapting to a new culture; prejudices and discrimination from residents, their families, and colleagues or supervisors; and more limited career opportunities (Eriksson et al., 2023). The combination of high demands, low control and low social support can result in higher job strain. However, a study conducted on two residential care facilities in Hamburg (N = 401) found that nursing staff with a migration background show similar levels of psychosocial burdens and stress levels as their colleagues without a migration background. Indeed, they reported significantly better scores on several scales, including emotional demands and role conflict. These results are explained by differences in occupational status, since non-migrant nurses were more

frequently employed as nurse specialists with leadership roles, which are often associated with higher role conflicts and emotional demands (Ulusoy et al., 2019).

Väisänen et al. (2024) examined the influence of working day characteristics and work organisation factors on perceived stress and time pressure among nurses in Finnish LTC facilities (N = 503) that provide 24-hour assistance. The findings showed that nurses who handle a higher volume of direct and indirect care tasks and clients with greater care needs experienced higher stress levels. Reduced break times, working day disruptions and poor recovery from the previous day were also identified as strong predictors of high stress and time pressure. In terms of work organisation factors, nurses experiencing higher levels of stress and time pressure were more likely to work in teams with lower job autonomy. Drawing on these results, the researchers concluded that employers should ensure a more balanced distribution of workload, considering not just the quantity but also the complexity of residents' needs. In addition, the promotion of self-organising teams with higher autonomy would enable nurses to plan their work better, potentially reducing stress and time pressure.

The implications of time pressure in the context of medical practice are framed under the concept of 'rationing of care' (Mandal, Seethalakshmi & Rajendrababu, 2020), which also represents a major challenge in residential care settings that has negative impacts on nurses' working conditions and patients' outcomes (Ludlow et al., 2021). The rationing of care in nursing refers to nurses' inability to complete all necessary care activities due to time constraints and insufficient resources, such as inadequate staffing levels, skills or equipment. This phenomenon is also referred to in the research as 'missed nursing care' or 'unfinished nursing care' (Ludlow et al., 2021). The most commonly missed tasks involve those that address patients' emotional and hygiene needs, such as comforting and talking with residents, or assisting with ambulation and toileting, as well as activities that do not have an immediate effect on patient health (Mandal, Seethalakshmi & Rajendrababu, 2020; Ludlow, 2021). The rationing of care is consistently linked to nurses' dissatisfaction with a job and turnover intentions. Research conducted as part of the abovementioned SHURP among a large sample of nursing homes showed that rationing of rehabilitation and patient monitoring activities were associated with poorer quality of care perceptions. Such rationing is a source of stress for care workers who are unable to provide the comprehensive care that residents need according to their professional criteria. It forces workers to prioritise basic physical care over social and emotional aspects (Zúñiga et al., 2015).

Recent research reveals significant challenges associated with unfinished nursing activities and the prioritisation of tasks due to insufficient resources. The factors associated with omitted nursing care tasks in nursing homes are largely associated with heavy workloads and time pressure. A study by Campagna et al. (2021) of Italian nursing homes (N = 217) showed that the likelihood of missed nursing care is much higher among publicly owned nursing homes, those with a higher share of residents with severe clinical conditions, and those with lower ratios of registered nurses to nurse aides. In Portugal, a study by Gil (2022) based on interviews with care workers (N = 40) in different nursing homes showed that staff shortages and workload pressures limit not only the time available to spend with each person, but also the capacity to meet basic needs adequately, including minimum standards of personal care.

Hackman, Hult and Häggman-Laitila (2023) found a high prevalence of unfinished nursing care activities among a sample of Finnish care workers in nursing homes, with an average of 7.3 out of 20 activities left unfinished per week. Social care and documentation were the tasks that were most commonly left incomplete. Similarly, a qualitative study by Lundin, Bülow and Stier (2021) examined how Swedish assistant nurses tend to prioritise care over administrative tasks, revealing a favourable position towards residents, and they justify their decisions based on their professional values. These studies highlight how organisational demands and insufficient resources compromise the quality of care, with staff struggling to maintain their professional identity while managing competing priorities. While the rationing of basic direct care activities for residents is less frequent due to workers' prioritisation, some studies show that its occurrence is also associated with workers' health issues, such as MSK pain, physical and emotional exhaustion, and presenteeism. This highlights the fact that workers' OSH problems ultimately impact care quality through the omission of necessary care tasks (Dhaini et al., 2017).

The psychosocial burden of missed nursing care is also significant because it creates moral distress when nurses feel they do not take morally right actions due to organisational constraints. It is particularly prevalent due to structural conditions such as resource shortages, complex patient needs and ethical

tensions around autonomy and end-of-life care. It is associated with adverse outcomes, including burnout, psychological distress and intentions to leave the profession.

- **Shift work and irregular schedules**

Working time patterns in residential care settings are determined by highly demanding schedules characterised by varying shift lengths, rotation and irregular hours, such as nights or weekends (EU-OSHA, 2025k; UNI Europa, 2025; OECD, 2020). These arrangements respond to operational requirements for 24/7 service provision to meet patients' demands, but they entail significant challenges for workers' health and the quality of care. Overtime is a prevalent practice due to widespread low wages and workers' need to secure sufficient income. It is also associated with chronic staff shortages in care facilities (UNI Europa, 2025).

Extended working hours may result from compressed working weeks with extended shifts followed by several days off. While workers may perceive positive effects of increased time off between work periods, research shows that these working time patterns entail significant risks, with a higher likelihood of physiological and psychosocial issues. These include work-related stress, sleep disorders or metabolic syndromes (including diabetes) due to changes in lifestyle, altered mealtimes and sleep deprivation, along with greater risks of cardiovascular diseases and breast cancer (Rosa et al., 2019). Extended working hours and shift or night work are well-established risk factors for increased fatigue, contributing to injuries and risk of work-related accidents (Imes et al., 2023). However, it should be noted that most of the research on the OSH risks of shift work focuses on nurses working in hospital settings. Few studies have explored the implications of these working-time patterns in LTC or other types of residential care facilities, with mixed results.

Goffeng et al. (2018) examined fluctuations of heart rate variability (HRV) among Norwegian nursing home workers (N = 24) over four consecutive 14-hour shifts under a compressed working week scheme. Crucially, workers were entitled to an extra one-hour break in the afternoon during which they could leave the ward to rest. Their findings reveal higher levels of cardiovascular stress during the first working day than during the fourth working day, with notable differences in the early morning hours. The mornings showed consistently higher stress, probably because workers felt anxious about the day ahead and had to perform demanding tasks like helping patients get out of bed, wash, dress and take their medications. However, the study did not confirm the assumption that consecutive extended day shifts increased stress, since cardiovascular disease (CVD) stress measurements returned to normal patterns during sleep and dropped even further during their first day off, which indicates physiological adaptation to demanding shifts. However, these results should be interpreted in the context of the favourable organisational conditions and size and time limitations of the study.

Another study among nursing assistants in LTC facilities in the US (N = 650) identified night shift work as a risk factor for sleep deprivation, due to the resulting misalignments between circadian times and rest periods. Night shift workers were nearly 57 % more likely to experience short sleep problems than their day shift counterparts. This negative impact was further exacerbated by workers' personal and family responsibilities, with those who have a second paid job and people dependent on them being the most concerned (Zhang et al., 2016b).

Suter and Kowalski (2021) looked at the effects of introducing extended working shifts in mental health institutions in the UK. They showed that extended shifts contributed to increasing workers' fatigue and anxiety in an already highly demanding work environment. The transition to 12-hour shifts was organised around a compressed working week, where standard working hours were compressed into 3-4 days, providing workers with additional days off. While the arrangements were designed to facilitate improved work-life balance and recovery, their implementation actually intensified job demands, interfered with workers' recovery and limited leisure activities. The shift from three 8-hour shifts to two 12-hour shifts eliminated handover periods, with less time for team meetings and exchanges, and reduced the number of staff available for essential non-routine patient care activities. Extended periods away from the workplace resulted in staff losing confidence in their clinical knowledge due to rapid patient admission and discharge cycles, creating a 'catch-up' phenomenon. Nurses also felt that the quality of care went down. They felt guilty and frustrated because they could not meet patient needs as they used to (Suter & Kowalski, 2021).

Consecutive night shifts were found to be linked to risks of prolonged fatigue among workers (N = 53) in two Austrian public nursing homes, with full recovery requiring at least three days off work following two consecutive 12-hour night shifts (Haluza, Schmidt & Blasche, 2019). Contrary to these results, qualitative research on Norwegian nursing home staff (N = 18) found that workers perceived more advantages than disadvantages to working long shifts (Ingstad & Haugan, 2024). Working long shifts presented challenges for balancing work with family life, particularly for staff with school-age children. However, extended rest periods (typically 3-8 days) facilitated greater detachment and recovery from work than traditional shifts. The study found that long shifts reduced stress levels through better workflow and fewer handovers throughout the day. Additionally, fewer working days resulted in reduced commuting times, particularly benefiting workers who live far from the workplace, and allowed for a clearer separation of work and non-work domains. Importantly, long shifts enabled more staff to work in full-time positions, providing predictable hours and stable incomes compared to the part-time arrangements common in traditional shifts.

Differences in the results of these two studies can be explained by organisational contexts. The UK mental health institution was a highly strained work environment, driven by unpredictable patient behaviour and rapid admission-discharge cycles. In contrast, nursing homes involve caring for older residents with chronic illnesses and dementia. The work pace is slower, more predictable, and with more flexible allocation and continuity of care tasks. Another critical difference between these two case studies lies in the implementation of shift changes. In the UK study, the change was a mandatory imposition driven by staff shortages, while in the Norwegian study it was a voluntary option chosen by staff (Suter & Kowalski, 2021; Ingstad & Haugan, 2024). This makes a substantial difference, since the effects of long shifts may vary across individuals, depending on whether shifts are aligned with their preferences or ‘chronotypes’ and other personal characteristics (Haluza, Schmidt & Blasche, 2019).

In this line, a longitudinal study by Peters et al. (2016) aimed to identify personal and job resources that moderate the relationships between work schedule demands and emotional exhaustion among nurses (N = 247) working rotating shifts or irregular working hours in care facilities for older people in the Netherlands. Their findings showed that work schedules that fit with nurses’ private lives and family needs were related to lower emotional exhaustion levels over a year and maintained work engagement despite facing highly demanding schedules. However, contrary to expectations, nurses with higher levels of work schedule control did not experience any positive effect. Instead, they perceived this as an extra burden, particularly in roles involving intensive collaboration with colleagues to swap schedules. The authors suggest that increased schedule control might also be associated with higher home and family-related demands in a predominantly female nursing workforce.

- **Work-life conflict**

There is a dearth of studies addressing work-family conflict (WFC) among residential care workers in the EU. This research gap is notable considering the demanding schedules faced by these workers, and the current workforce retention challenges in a female-dominated sector. A study from Switzerland based on large-survey data (N = 4,324) from the 2018 SHURP quoted above, found that around a third (31 %) of workers experienced some form of work-family conflict (Hauser et al., 2023). The study identified several working time factors associated with the experience of WFC. Frequently working overtime or working during free time (for example, running errands for residents) was a factor associated with WFC. Shift work emerged as a key determining factor. Care workers with regular changes of shifts and split day shifts experienced significantly higher WFC than those working on other shifts. Another relevant finding is that part-time workers showed lower WFC than those with longer contractual hours. Beyond working-time issues, the study found that workers reporting poor perceived staffing adequacy and low managerial support experienced higher levels of WFC. The study concludes that WFC could be addressed through organisational interventions aimed at expanding workers’ influence in planning work schedules and staffing, enabling flexible planning to ensure adequate staffing, and training managers on how to effectively support workers.

- **Low control**

Autonomy on the job is a crucial factor for workers’ OSH and well-being, and for the quality of care in residential care settings. Several studies show that although healthcare assistants provide the most direct care to residents, they are not typically included in decision-making processes in the workplace.

A lack of autonomy and decision-making capacity is associated with reduced satisfaction with the job and turnover intentions.

The extent of job autonomy granted to healthcare assistants in nursing homes is influenced by structural factors and workplace practices. An increase in reporting and administrative requirements, the growing frailty and medical complexity of residents' needs, insufficient staffing and a lack of supportive organisational policies are all factors that limit the autonomy and decision-making involvement of care assistants, particularly those with lower levels of training (Jacobsen et al., 2018). Healthcare assistants frequently lack access to essential information, such as care plans, and are often excluded from information-sharing and exchange processes due to time constraints or poor communication and low supervisor support in working teams (Cranley et al., 2023). Rigid hierarchical structures also contribute to healthcare assistants' exclusion from decision-making processes. This hierarchy hinders the implementation of 'person-centred' care approaches that require greater autonomy and involvement in decision-making, based on residents' changing needs and preferences. Healthcare assistants' lower status often results in their exclusion from assessment and care planning processes, creating barriers for effective team coordination and information exchange. New service provision models in residential care settings are shifting into more horizontal structures where assistants participate in decision-making with managers. This contributes to an improved sense of competence and professional recognition, with positive impacts in terms of job satisfaction and reduced turnover intentions (Cranley et al., 2023; Jacobsen et al., 2018).

A study by Van den Berg et al. (2025) covering groups of care professionals in Dutch nursing homes (N = 3,932) showed that formal opportunities for worker participation were a significant predictor of job satisfaction among registered nurses but not among nursing assistants. This is explained by the fact that nursing assistants typically lack opportunities to raise their views about organisational issues, while qualified nursing assistants tend to value more than other groups the opportunity to report and learn from incidents. In Germany, Wendsche et al. (2016) found that low levels of job control were associated with registered nurses' (N = 304) intention to leave their profession across different types of care settings (home care and nursing homes) and ownership types (for-profit and public non-profit). This relationship was particularly salient among private for-profit nursing homes, even though nurses working in non-profit organisations reported facing higher job demands.

- **Low social support**

Comparative research on nurses' work environments in HeSCare settings, including hospitals, nursing homes and home care settings, highlights the importance of social support from colleagues and managers. This is a crucial resource in challenging work environments and contributes to workers' satisfaction. Drawing on cross-national data from the NEXT research project (N = 34,771), Van der Heijden et al. (2017) showed that the quality of leadership and support provided by colleagues and supervisors had a positive effect on nurses' well-being and psychological distress. This effect was partially mediated by time pressure and overcommitment. In a related study, the authors expanded these findings by showing that job resources like influence at work and development opportunities contributed to reducing nurses' turnover intentions (Van der Heijden et al., 2018). Similar results are provided in a study by Schwendimann et al. (2016) on Swiss nursing homes (N = 4,415), which identified supportive leadership and teamwork as the most determining factors for job satisfaction and retention.

Supervisor support and feedback enhance care assistants' confidence and participation in decision-making processes, acting as a protective resource against PSR factors (Cranley et al., 2023). A longitudinal study by Backman et al. (2023) over a five-year period in Swedish nursing homes (N = 1,253 in 2014 and N = 1,176 in 2019) highlighted the importance of supervisors' roles in promoting supportive work environments. The study showed that leadership quality, characterised by coaching and feedback for care staff, handling conflicts constructively and providing opportunities for staff to organise their working day, contributed to moderate perceptions of job strain during a period of increased workload and deteriorating labour climate.

A similar study by Buljac and van Woerkom (2018) in the Netherlands (N = 497) showed that team support serves as a buffer against a high workload and is positively associated with overall quality of care and a reduction in medication errors. The researchers focused on whether 'team support for strengths use' – defined as a team member's perceptions of how much their team acknowledges their unique abilities and whether they feel encouraged to apply these abilities in their work assignments –

can mitigate negative impacts of high workloads on care quality. The findings showed that workers who feel supported experienced higher levels of self-esteem that compensate for the stress-related errors that occur with high workloads, making them more effective at coping with job demands.

- **Low recognition and effort-reward imbalances**

Low recognition stems from the inadequacy of wages or poor professional recognition associated with a job, a lack of career development opportunities within organisations or job insecurity. According to the effort-reward imbalance model, imbalances between effort and rewards can result in emotional distress associated with a stress response and individual coping strategies through overcommitment.

LTC is predominantly a low-paid sector compared to workers in similar occupations in the hospital sector (OECD, 2020). The average gross hourly wage for LTC workers is 69 % of the EU's average. However, in certain Member States, this figure is significantly higher. It ranges from 80 % to 93 % in Czechia, Luxembourg, Netherlands and Austria. In other countries, wages are notably lower, with percentages between 55 % and 58 % in Greece, Latvia, Poland and Portugal (Pavolini & Marlier, 2024). While most studies acknowledge the precarious employment conditions in residential care settings, few have explored their implications for workers' mental health. In France, a large-scale study among female nursing home workers (N = 2,471) found that 36.8 % of participants experienced impaired mental well-being and psychological distress, with effort-reward imbalances and overcommitment as main risk factors (Pélissier et al., 2015). The research identified different patterns in the prevalence of risks across groups of workers. Participants reporting overcommitment without effort-reward imbalance were mainly nurses working day shifts, full-time, on permanent contracts, working more than 11 hours a day, and they had experienced verbal or physical abuse. Those with both overcommitment and effort-reward imbalance were more often nursing assistants with less than five years' seniority in the institution. Despite these differences, the prevalence of overcommitment increased with seniority in the establishment, years of experience working with older people and excessive workloads.

- **High emotional demands**

Emotional demands are defined as the aspects of a job that require sustained emotional effort because of interactions with people in suffering and traumatic circumstances. Dealing with these work situations frequently requires expressing emotions that may not be genuinely felt. High emotional demands are intrinsic to the nature of the work in the HeSCare sector. This sector shows the highest share of workers who report dealing with difficult third parties, which can adversely affect their mental health and well-being (18 % versus 10 % average, based on LFS 2020 data). HeSCare workers are often required to regulate their emotions to maintain professionalism in highly stressful and emotionally charged situations (23 % of LTC workers surveyed in the EWCS 2015 report were exposed to emotionally disturbing situations for three-quarters of the time or more, which is more than twice as often as the overall workforce (10 %) (EU-OSHA, 2025k).

High quantitative demands are a significant risk factor that contributes to the emotional challenges faced by residential care workers. As previously mentioned, the combination of organisational constraints and residents' complex needs tends to limit nurses' ability to perform according to professional and moral standards. Normally, moral distress is considered to arise when professionals recognise the morally appropriate course of action but are unable to act on it (constraint moral distress). However, in the nursing home context, moral distress also emerges from situations in which professionals are uncertain about what constitutes the morally correct action (uncertainty moral distress). A qualitative study based on interviews with 21 registered nurses across five nursing homes in Austria showed that both forms are widely experienced. Constraint moral distress is particularly associated with situations involving inappropriate end-of-life treatments (for example, artificial nutrition or resuscitation), avoidable hospital transfers, inadequate management of residents' adverse behaviours (such as reliance on sedation) and the provision of low-quality care (including lack of attention). These situations are shaped by external barriers, such as decisions imposed by relatives or physicians, institutional routines, legal constraints and staff shortages. They are also impacted by internal barriers, including lack of moral courage, emotional exhaustion and insufficient knowledge. At the same time, uncertainty and moral distress are highly prevalent, especially in end-of-life care and decisions about hospital transfers. In these cases, professionals often face ambiguity, particularly when residents' preferences are unknown or when physicians are not available. This uncertainty generates doubt and emotional strain and may lead to defensive decision-making, such as opting for hospital transfers 'just in case' (Kada & Lesnik, 2019).

A major source of high emotional demands in the working environment of residential care work stems from the special needs and circumstances of the resident population (patients with dementia and impaired cognitive capacities). Caring for residents with dementia during the end of their lives is emotionally demanding work. Direct care workers commonly report experiencing emotional distress when they are unable to alleviate residents' pain and suffering towards the end of life. Many workers become emotionally attached to residents and their families, and a resident's death contributes to feelings of emotional and mental exhaustion, despite the fact that they are expected to act professionally. The emotional burden may be exacerbated by a lack of specific skills in interpersonal communication (Vandrevala et al., 2017).

A study by Sebastiano, Giangreco & Peccei (2021) in Italy examined how personal characteristics of nursing home residents impact workers' well-being. The study focused on workers' positive and negative affect (N = 1,080). It found that residential care workers experience high demands with 24/7 care requirements and complex interactions with residents who have impaired cognitive capacities. The findings confirmed that residents' perceived adequacy of resources was linked to more positive emotions among workers, who experience their job as more rewarding. However, contrary to expectations, the study found that residents with better cognitive capacity increased caregiver stress rather than reducing it. This is explained by the fact that cognitively alert residents have more needs and expectations, requiring more attention than residents with more limited capabilities who need more basic and standardised care. Overall, these findings stress that the quality of interactions between residents and workers in nursing homes is contingent on their respective expectations of each other and what each side can provide.

Compassion fatigue is also a prevalent risk factor in the HeSCare sector that adversely affects the health of professionals with direct caregiving roles. Compassion fatigue manifests as a form of stress and exhaustion resulting from constant exposure to the trauma and suffering of care recipients. This phenomenon has been largely studied in healthcare settings (mostly among nursing staff in oncology and palliative care units), but it also presents significant challenges for nurses in residential care settings.

Sarabia-Cobo et al. (2021) analysed the relationship between burnout, compassion fatigue and psychological flexibility among geriatric nurses (N = 281) in Spain. Drawing on cross-sectional survey data, they found that compassion fatigue levels were generally low to moderate, with around 40 % of nurses reporting medium levels. Compassion fatigue was positively associated with burnout and negatively associated with psychological flexibility and compassion satisfaction. Additionally, higher levels of compassion fatigue were observed among nurses with longer work experience. Psychological flexibility was identified as a protective individual resource, negatively associated with burnout and compassion fatigue and positively associated with compassion satisfaction. The authors also suggest that psychological flexibility may develop with professional experience, as higher levels were observed among more experienced workers. However, the cross-sectional nature of the data and the absence of organisational-level variables limit the ability to draw causal conclusions.

Also in Spain, Montaner, Tárrega & Moix (2021) assessed the relationship between workers' psychological flexibility and their attitudes towards patients and burnout on a sample of professionals working in a residential care facility in Spain (N = 105). Psychological flexibility involves accepting challenging situations and knowing how to adapt to them in line with personal values, in contrast to coping strategies based on avoidance of unpleasant emotions or thoughts. The results showed that participants with higher flexibility levels reported a higher level of satisfaction with the job and were less prone to emotional exhaustion, depersonalisation and showing less affection for patients. These findings suggest that psycho-educational interventions focused on promoting psychological flexibility could be beneficial in reducing the risk of burnout among care workers in dementia care (see also Barbosa et al., 2015, 2016; Sarabia-Cobo et al., 2021).

Nevertheless, research indicates that **the effects of high emotional demands on residential care workers cannot be attributed only to residents' clinical conditions and the personal attitudes or resources of the workers themselves.** These emotional challenges are also shaped by working conditions and the availability of adequate organisational support.

Drawing on large cross-sectional data of residential care workers in Switzerland (N = 3,922), Vogel et al. (2017) analysed whether the proportion of residents with dementia was associated with workers' stress, compared to organisational and resident-related factors. Stress was operationalised across three

dimensions: conflict and lack of professional recognition, workload, and lack of preparation. Their findings showed that the proportion of residents with dementia was not significantly associated with stress levels once other factors were considered. Instead, stress was strongly associated with organisational conditions (particularly inadequate staffing, poor leadership and low levels of team collaboration), and exposure to aggressive behaviour such as verbal aggression and observing aggression among residents.

In this vein, a study by Armant et al. (2021) on French public nursing homes showed that the impacts of emotional demands on workers' health are closely linked to how they enact their professional role. This includes moral goals such as preserving residents' dignity and quality of life. However, this role is constrained by a structural lack of resources (including time, staffing, training and coordination). When a persistent imbalance arises between job demands and available resources, a spiral of resource loss emerges. This affects the individual, interpersonal and organisational levels, and leads to workers' exhaustion, reduced quality of care, conflicts and loss of professional meaning. Thus, workers' health problems are primarily driven by organisational conditions (such as understaffing, rigid structures, poor absenteeism management and limited professional autonomy), which prevent workers from delivering care according to their own standards of good work.

Evidence suggests that organisational factors have mixed implications for workers' well-being. Drawing on a cross-sectional survey of over 1,000 nursing staff across dementia care facilities in the Netherlands, Willemse et al. (2015) showed that person-centred attitudes were associated with higher job satisfaction and a stronger sense of personal accomplishment, but also with increased emotional exhaustion. Supervisor and co-worker support and workload played a more decisive role in shaping workers' well-being than a person-centred attitude. Importantly, highly person-centred workers were especially sensitive to supervisory support, as organisational constraints may prevent them from delivering the quality of care that they consider appropriate. Notably, the study looked at person-centred attitude as an individual trait, while the practice of PCC at the level of an organisation usually entails broader changes involving different aspects of work organisation to support this approach to care work (Chenoweth et al., 2019).

- **Adverse social behaviour, including violence and sexual harassment**

A major issue in research on the social working environment in HeSCare sectors, specifically in LTC work, is the prevalence of workers' exposure to forms of patient violence and aggression. A systematic review of research evidence in German nursing contexts found that the experience of violence was particularly prevalent among nurses working in long-term facilities compared to other care settings (Schaller et al., 2021). In Norway, a study conducted on a national representative sample of registered nurses found that 42.6 % had experienced some form of physical violence, threats of violence, sexual harassment and bullying, with exposure to more than one of these risks being common (Ose et al., 2023). In Switzerland, data from the SHURP project show that 66 % of care workers reported experiencing verbal aggression, 42 % physical aggression and 15 % sexual aggression in a four-week period (Stutte et al., 2017). Research in Catalonia (Spain) found that 68 % (N = 433) of nursing home staff experienced attacks by older residents with dementia (Vidal Martí, 2021).

Aggressive behaviour of residents with dementia is a significant risk for residential care workers, leading to physical and psychological damage, stress and depression. Exposure to aggressive behaviour results in fatigue and emotional exhaustion. Dealing with potential aggression from residents also leaves care workers feeling exhausted and hopeless, causing them to question their competence and professionalism. Ultimately, residents' aggressive behaviour can affect workers' feelings about residents, which can have lasting consequences for the quality of care (Holst & Skär, 2017).

However, aggressive behaviour is not only linked to residents' conditions (such as dementia). A cross-sectional study conducted in Switzerland (N = 3,919) found that working in specialised dementia units was associated with a higher likelihood of all types of aggression. At the same time, higher perceived adequacy of staffing and resources and greater autonomy were associated with a lower likelihood of aggression. At the individual level, emotional exhaustion was consistently associated with a higher likelihood of experiencing aggression, while older (more experienced) workers were less likely to report it. In addition, workers in roles involving closer physical contact with residents (for example, nursing assistants) were more exposed to physical aggression (Stutte et al., 2017). These findings suggest that

aggressive behaviour is shaped not only by residents' conditions, but also by organisational and worker-related factors.

Importantly, further evidence suggests that such associations may reflect dynamic interactional processes (Görgen, 2019), rather than merely differential exposure to aggressive residents. Drawing on survey data from Portuguese nursing homes (N = 150), Gil and Capelas (2022) showed that behaviour suffered by care workers (for example, insults or physical aggression from residents) are statistically associated with abusive or neglectful responses towards residents. This points to a reciprocal process, in which aggression is produced and reproduced through ongoing interactions between staff and residents. Poor working conditions (such as understaffing, low wages, time pressure, lack of training, weak supervision and poor communication) contribute to a climate of conflict that facilitates this escalation. From this perspective, emotional exhaustion may be embedded in broader interactional dynamics through which aggression is produced and reproduced, rather than acting only as an individual risk factor.

This interactional perspective is consistent with qualitative research on how workers interpret and manage residents' behaviour. Clifford and Doody (2018) explored nursing staff's perceptions of 'responsive behaviours' among people with dementia in LTC settings through in-depth interviews (N = 9). The study showed that physical and verbal aggressions are frequent and are often understood as expressions of unmet needs. This increases the emotional and cognitive demands of care work, as workers have to identify behavioural triggers and develop knowledge of the resident. However, adequately understanding these behaviours requires time and training, which are often constrained by organisational conditions.

The emotional consequences of repeated exposure to aggressive behaviour are well documented. Drawing on survey data from French nursing homes (N = 481), Andela, Truchot & Huguenotte (2021) found that residents' aggressive and challenging behaviour constituted a key source of emotional demands, generating feelings of helplessness, stress and anxiety among care workers. These emotional pressures contributed to burnout, particularly emotional exhaustion and depersonalisation. In turn, higher levels of emotional strain and burnout were associated with an increased likelihood of neglect and abusive behaviour, as residents' actions might be perceived as provocation and trigger reactive responses from staff. Similar patterns were observed in a cross-sectional study in Croatia (N = 171), where higher levels of emotional exhaustion and depersonalisation were associated with more negative attitudes towards residents and greater reported involvement in neglectful or abusive practices (Neuberg et al., 2017). Conversely, engagement in professional education was associated with lower levels of burnout, which suggests a potential protective role of training and professional development.

In this context, sexual harassment represents a specific dimension of adverse social behaviour in LTC settings. Across the literature, which is largely qualitative, there is a consistent pattern whereby this form of violence is individualised and consequently normalised as part of everyday care work.

Grigorovich and Kontos (2020) critically examined public policy approaches to sexual harassment in residential LTC in Canada, arguing that policies tend to conceptualise sexual harassment as an issue of individual deviance, focusing on isolated incidents and the behavioural management of residents. This approach neglects the relational nature of care work and fails to account for the complexities introduced by cognitive impairment. The authors further identified key inconsistencies in legal and organisational frameworks, which prioritise residents' protection while limiting workers' ability to refuse unsafe work or seek adequate protection.

Drawing on qualitative interviews with care workers in Denmark (N = 39), Nielsen et al. (2017) explored workers' experiences and the organisational handling of sexual harassment. They found that care workers frequently distinguished between intentional and unintentional behaviour, particularly when patients had cognitive impairments such as dementia. Despite this distinction, such experiences generated negative emotional consequences, including fear, discomfort, insecurity and emotional exhaustion. Over time, some workers underwent a process of normalisation, whereby these behaviours came to be perceived as part of the job. At the organisational level, the study highlighted a lack of formal guidelines and policies to prevent or manage sexual harassment from patients. As a result, incidents were typically handled on an ad hoc basis, placing responsibility on workers themselves.

Drawing on qualitative data from six assisted living facilities in the United States (N = 55), Burgess et al. (2018) examined how workers perceived and managed residents' sexualised behaviour. The study showed that such behaviour is not consistently identified as sexual harassment. Instead, their interpretation depended on worker characteristics (including gender, experience and job role), resident characteristics (for example, age, gender and cognitive impairment), and situational factors such as the type (verbal vs physical), frequency and severity of the behaviour. For instance, male and more experienced workers were less likely to define these behaviours as threatening, while workers in roles involving closer physical contact were more exposed and more likely to experience persistent forms of harassment. The behaviour of residents with dementia is often interpreted as unintentional and therefore excused or minimised.

The study also showed that workers typically respond by managing situations individually (ignoring, redirecting or reframing interactions) while formal reporting is relatively rare and usually reserved for severe or persistent incidents. Over time, these behaviours tend to be normalised as 'part of the job', particularly among more experienced staff. Organisational responses are often inconsistent, with limited training and a lack of clear policies addressing resident-to-staff harassment. As a result, responsibility for managing sexual harassment is largely shifted onto individual workers, contributing to its normalisation and relative invisibility in assisted living settings.

3.2.3 Physical, chemical and biological risks

- **Physical risks**

Residential care workers are exposed to physical risks, such as noise, slips, trips and falls (STFs) arising from the physical environment in residential settings. Overall, EU-OSHA (2024b) indicates that establishments in the HeSCare sector are less exposed to physical risks, in comparison with the EU-27 average across all other sectors. Nevertheless, data from ESENER 2019 showed that residential care workers are more exposed to the risks of STFs than healthcare workers.

Most research on the risks and prevention of STFs in residential care settings focuses on the residents (Gaspar et al., 2025; Olij et al., 2017). There is a notable lack of research that addresses the issue from the perspective of workers' OSH in EU countries. Studies conducted in the US reveal that STFs represent a significant share of workers' injury compensation claims in nursing homes. STFs may result from workers assisting residents with gait and balance problems during activities of daily living, such as bathing, showering or toileting. However, most of the STF incidents were traced to preventable environmental hazards, including water, body fluids, grease or wax that create slippery surfaces and trips over wheelchairs and other objects. Workers' age is also a significant risk factor, with those aged over 50 years experiencing a higher rate of STFs than younger workers (2.8 and 1.6 per 100, respectively) (Bell et al., 2013).

- **Chemical risks**

Exposure to chemical and biological hazards is a defining characteristic of work in residential and LTC settings. Comparative European data indicate that workers in the HeSCare sector are more exposed to chemical and biological agents than the average. In the HeSCare sector, exposure levels in residential settings are higher than in social work settings.

Chemical risks in residential care primarily stem from the regular use of cleaning agents and disinfectants, often in enclosed environments where inhalation is a key route of exposure. A quantitative risk assessment conducted in France (Colas et al., 2022) examined the health risks associated with chronic inhalation of chemical pollutants in indoor air across healthcare and care facilities for older people (hospitals, dental offices, general practitioner offices, pharmacies and nursing homes). The study focused on workers' long-term exposure to 36 volatile organic compounds (VOCs) and 13 semi-volatile organic compounds (SVOCs). Indoor air measurements were made, and non-carcinogenic and carcinogenic effects were estimated. In nursing homes, exposure scenarios were considered in residents' bedrooms and common rooms. The study found that indoor air in residential settings contains a mixture of VOCs and SVOCs at concentrations generally higher than those measured in hospitals but comparable to or lower than those observed in dwellings. No evidence of significant non-carcinogenic risk from chronic inhalation was found. However, for carcinogenic effects, cancer risk estimates for staff were above the commonly accepted threshold. The findings imply that overall chemical exposure in

residential care does not pose major chronic health risks. The study therefore points to improving mechanical ventilation and long-term indoor air quality strategies.

Additional evidence from the Workers' Exposure Survey (WES) on cancer risk factors in Europe highlights other relevant exposures in the residential care sector (EU-OSHA, 2025l). The cancer risk factors assessed in the study were ionising radiation, diesel engine exhaust emissions, solar UV radiation, formaldehyde, benzene, ethylene oxide, respirable crystalline silica and artificial UV radiation. Of these, the most frequent exposures in the residential care sector were solar UV radiation (14.7 %) and diesel engine exhaust emissions (9.1 %), at a medium or low level. The primary exposure circumstance included driving, maintaining or travelling in diesel-powered vehicles. The main circumstances for workers having probable exposure to solar UV radiation were related to working outside during the day, working with or near reflective surfaces, or working outside in a vehicle.

The survey also provides information on preventive practices associated with these exposure contexts. Across the HeSCare sector (N = 3,000), the use of sunscreen was relatively uncommon (9.9 % to 12.5 %), especially when compared to wearing sunglasses (14.9 % to 48.3 %), wearing a hat or head cover (25.4 % to 32.5 %), and wearing clothing that covered most of the body (81.5 % to 99.7 %). Notably, workers working with or near reflective surfaces adopted none of the protective measures included in the survey (58.6 %), compared to workers working outside (0.2 % to 8.4 %).

The handling of hazardous medicinal products (HMPs) constitutes a distinct occupational risk in residential care. According to the European Commission (2023), the main risks associated with hazardous medicinal products (HMPs) in residential care settings stem from the decentralised nature of care provision. Unlike hospitals, these environments lack controlled preparation areas, and administration may occur in bedrooms or other non-specialised spaces. This increases the risk of occupational exposure through direct handling, accidental spills, improper preparation and inadequate storage or transport. The fragmentation of responsibilities among pharmacies, nursing staff, care home personnel, home care agencies and family carers may further lead to inconsistent application of protective measures. A key risk is prolonged and indirect exposure through contaminated excreta (urine, faeces, vomit and sweat) and blood, as HMP residues may remain present for up to one to two weeks after administration. This creates exposure risks for workers involved in personal care, cleaning and laundry, including non-clinical staff who may be unaware of the hazard. Environmental contamination is also a concern, since domestic surfaces such as carpets, furniture and shared bathrooms are harder to decontaminate than hospital-grade materials. Additional risks arise from insufficient training of staff and carers, as well as inadequate waste management and cleaning practices, which may lead to secondary exposure if contaminated materials and laundry are not handled properly.

- **Biological risks**

Biological risks are central to residential care work, given the frequent close contact with residents, many of whom have compromised immune systems, chronic illnesses or open wounds, increasing susceptibility to infection. A substantial burden of infection has been documented across European Union LTC facilities, with 57 % of residents having at least one infection acquired within healthcare settings (Rello, Buetti & Mowafy, 2026). The inherent features of residential care settings, such as shared living facilities, limited resources and residents' vulnerability to infections, increase the risk of infections and the spread of antimicrobial resistance. Despite the existence of well-established international infection prevention and control guidelines, some studies highlight critical gaps that affect their implementation in LTC facilities. Notably, most existing frameworks are adapted from acute care settings without adequately considering the specificities and heterogeneity of LTC facilities across EU countries (Rello, Buetti & Mowafy, 2026). However, the scarcity of studies addressing exposure to biological risks as an OSH risk for residential care workers is notable.

Working environments in residential care must adhere to infection prevention protocols and the use of personal protective equipment (PPE). Much of the recent literature has focused on viral transmission during the Covid-19 pandemic and on the use and effectiveness of PPE and vaccination campaigns in nursing homes. As an example, García-Gómez et al. (2022) showed that Spanish workers in LTC facilities experienced extremely high levels of sick leave during the pandemic, particularly among frontline occupations that involved close contact with residents.

A review of studies examining barriers and facilitators in the use of PPE among healthcare workers in residential care settings found that PPE shortages, high acquisition costs and supply prioritisation for acute care settings over LTC hindered the use of PPE during the pandemic. Additionally, unclear changing guidelines, perceived interference of PPE with resident care (in particular, communication with residents living with dementia) and concerns about frightening residents were identified as relevant barriers. Facilitators included the availability and visibility of PPE and healthcare workers' willingness to protect themselves and prevent pathogen transmission (Tsang et al., 2023).

Kolodziej et al. (2025) examined influenza and Covid-19 vaccination coverage among Dutch residential care workers (N = 298). The study revealed a very high Covid-19 vaccination rate (94 %) but significantly lower uptake of the influenza vaccine, which tended to decline following the pandemic. Physicians were more likely to be vaccinated than nurses and care assistants. Qualitative findings revealed various issues influencing vaccination decisions: perceived urgency, trust or distrust in government and vaccine development, beliefs about the immune system and preventive health, and logistical barriers. Many hesitant workers expressed confidence in their own immune systems, a preference for lifestyle-based prevention, and scepticism about the need for vaccination compared to hygiene measures or PPE. Distrust often stemmed from perceived coercive communication during the pandemic. Practical facilitators included on-site vaccination, flexible scheduling and neutral, factual communication delivered by trusted local figures within the organisation.

3.3 Safety and health outcomes

This section summarises the main findings from the literature review on OSH outcomes. The first part addresses the mental health issues that have been most extensively addressed in the research, including work-related stress, burnout and depression, and the prevalence of absenteeism and presenteeism. The second part deals with MSDs, while the third part focuses on work-related accidents and injuries. It highlights how these issues stem from a combination of high quantitative and physical job demands and organisational factors that affect workers' well-being and the quality of care.

3.3.1 Mental health issues

- **Stress**

Work-related stress can be defined as a pattern of emotional, cognitive, behavioural and psychological reactions to adverse aspects of work content, work organisation and work environment. It is a state characterised by high arousal, distress and feelings of not coping, due to excessive job demands and low control over work (European Commission, 2000). Prolonged exposure to work-related stress can lead to impaired recovery from work, and physical and emotional exhaustion. In addition, work-related stress, along with low rewards, contributes to workers' intentions to leave the sector and, ultimately, causes staff shortages (EU-OSHA, 2025k).

Stress has been extensively studied across HeSCare settings with known impacts on workers' well-being and patient care quality. In the context of residential care work, stress is associated with critical aspects of work organisation, such as high workloads and time pressure (Stewart et al., 2023; Väisänen et al., 2024), and the challenging social environment of care work, characterised by high emotional demands and difficult interactions with patients, along with poor social support.

Jenull and Wiedermann (2015) identified stress patterns in Austrian nursing homes (N = 844). The study found that one of the most significant sources of **stress is heavy workloads and conflicts due to the behaviour of residents and their relatives.** Nurses experiencing higher levels of stress are more likely to report negative perceptions of residents' behaviour, which are especially challenging given the complex needs and the prevalence of psychiatric disorders among the resident population. Interactions with residents' relatives can create stress for nursing staff when family members interfere with established nursing procedures. Financial security emerged as a significant protective factor, with nurses working in rural areas and with a secure financial situation reporting lower levels of stress and dissatisfaction with the job. Conversely, nurses working in urban areas (Vienna) and with a foreign background were more likely to report higher levels of stress. This is explained by the work-life conflict experiences of cross-border nurses, mostly from Eastern countries, who spend most of their non-work time in their home countries.

A similar study conducted in residential care facilities in Germany (N = 195) identified various work organisation risk factors associated with the experience of chronic stress, including **high physical demands (awkward postures or lifting and transferring patients) and other demanding psychosocial conditions, such as time pressure and shift work.** The study showed high rates of MSK complaints and poorer physical and psychological well-being among stressed nurses. It also revealed that individual work-related behaviours were major determinants of individuals' stress levels. Specifically, behavioural patterns characterised by excessive dedication to the job and workers with low motivation at work and poor coping strategies were more likely to experience higher levels of chronic stress than those with more balanced attitudes to their job. This suggests that stress is not always a direct result of job demands – it is also shaped by individuals' perceptions. Consequently, interventions to tackle stress in residential care settings should focus on personal traits (Wollesen et al., 2019).

Residential care workers often face stress due to **conflicts between their professional and personal values and the practical realities they face in the delivery of services**. These feelings may arise when they do not have enough time to provide care aligned with their professional standards due to high workloads, organisational constraints, and a lack of support from colleagues and managers. A study by Munkeby, Bratberg and Devik (2023) among Norwegian LTC workers (N = 2,132) showed that the experience of this 'stress of conscience' is more prevalent among registered nurses and workers in nursing homes than among those in home-based care. This difference is attributed to the fact that nursing home patients are older and have more complex needs. The study also revealed that registered nurses experience higher stress due to conflicting job demands than other worker groups. This is attributed to the shortage of registered nurses, increased workload and conflicting expectations in their role as team leaders and direct care providers.

Bischoff-Schumacher, Lehmann-Willenbrock and Wollesen (2025) further examined the psychosocial risk factors influencing chronic stress profiles and the effect of physical activity among German residential care workers (N = 308). Findings showed that a combination of **work-family conflict and role conflict was the main factor in the highest risk profile of chronic stress**. However, the analysis of nursing staff revealed that high quantitative demands in combination with low commitment to the job were the most critical stressors. Other findings supported what the researchers termed the 'physical activity paradox', suggesting that the potential stress-reducing benefits of physical activity during leisure time might be diminished among chronically stressed care workers who engage in vigorous physical activity as part of their job.

Caring for residents with dementia is particularly challenging and contributes to the stress of care workers. Residents with dementia often show aggressive and hostile behaviours and have minimal control over their actions. They may be resistant and unpredictable. Vogel et al. (2017) assessed how working on nursing home units with different shares of residents with dementia affected workers' stress levels, while also investigating additional stressors like work environment factors and aggressive resident behaviours. The study, based on a large dataset (N = 3,922) from the Swiss Nursing Homes Human Resources Project (SHURP), found moderate overall stress levels and that the type of unit played a minor role in workers' stress levels compared to other work environment characteristics. In particular, inadequate staffing levels and resources were **associated with all stress measures (conflict, lack of recognition, workload and lack of preparation). Exposure to residents' aggressive behaviour is a major contributor to stress**. Workers who experienced verbal aggression or observed verbal or physical aggression between residents reported higher levels of stress.

- **Burnout**

Burnout appears as a major concern in research on the OSH of residential care workers, with implications for the quality of care and the sustainability of LTC systems (Wang et al., 2024). Burnout is included in the 11th Revision of the International Classification of Diseases (ICD-11) as an occupational phenomenon (code QD85) and defined as a syndrome resulting from chronic workplace stress that has not been successfully managed. It is characterised by three dimensions: feelings of energy depletion or exhaustion; increased mental distance from your job or feelings of negativism or cynicism related to your job; and reduced professional efficacy (WHO, 2019).

A meta-analysis of studies published before the pandemic (2009-2017) found overall low or moderate burnout levels among care workers working with dementia residents (Costello et al., 2019). **Inadequate staffing levels, along with increased time pressure and workloads, are consistently identified in**

the research as a risk factor contributing to emotional exhaustion and burnout in residential care settings. In this regard, a study conducted in Germany (N = 854) as part of the PROCARE project for burnout prevention in LTC settings (EU-OSHA, 2025g), revealed high prevalence of work-related physical and mental health issues due to the combined effect of high physical demands and time pressure. A total of 75 % of participants showed chronic stress symptoms and 95 % reported MSK pain, and these complaints limited 61.5 % of participants' work ability. The study examined the protective role of job and personal resources in moderating these negative outcomes, which were more strongly associated with mental health than physical health. These findings highlight the importance of workplace interventions that target not only individual coping strategies, but also the development of more supportive work environments, particularly through managerial recognition of workers and their involvement in decision-making processes (Korbus et al., 2023).

Research shows that years of tenure in nursing homes negatively affects workers' feelings of personal accomplishment. Longer tenure was associated with a declining sense of competence and achievement at work (Costello et al., 2019; Harrad & Sulla, 2018). Overall, most of the factors that contribute to the experience of burnout among residential care workers can be attributed to modifiable organisational characteristics, such as job strain and work-life interferences, which have a negative impact on workers' feelings of personal accomplishment. However, most of the interventions addressing the issue focus on individual approaches with limited effectiveness (Cooper et al., 2016).

Other critical factors of the psychosocial work environment associated with burnout and stress among staff in residential settings include **poor social support and low control on the job** (Costello et al., 2019; Woodhead, Northrop & Edelstein 2016). Effective perceived leadership and support from colleagues have a protective effect against burnout and stress. Staff who lack opportunities to discuss residents' care needs experience heightened emotional exhaustion, whereas those who engage in discussions about challenging situations with colleagues at work experience significantly lower job strain (Costello et al., 2019). In this line, a study conducted in general palliative care settings in Germany (N = 497, also covering nursing homes) found that workplace commitment, a good working team and recognition from supervisors significantly weakened the association between quantitative demands and burnout. This illustrates the importance of organisational interventions in the prevention of burnout, particularly among workers who are more exposed to work with palliative patients (Diehl et al., 2021). Similarly, a qualitative study by Foà et al. (2020) (N = 32) showed that social support, professional autonomy and opportunities for professional development were key factors supporting workers' job engagement and satisfaction in a selected Italian care facility for older people.

More recently, Bouche et al. (2025) confirmed a **direct association between effort-reward imbalances and work-related mental health issues, notably burnout and depression**, among French residential care workers (N = 245). These effects were mitigated by individuals' psychological empowerment, a multidimensional construct reflecting individuals' sense of purpose, perceived competence to perform their job, and autonomy and control over their tasks. Some studies suggest that a worker's perception of providing PCC is associated with higher personal accomplishment and can act as a protective factor against burnout (Harrad & Sulla, 2018). PCC approaches contribute to increasing residential care workers' autonomy by allowing them more control over how they provide care while also contributing to a more supportive work environment with co-workers and supervisors (Willemse et al., 2015).

Exposure to aggression and violence at work is also linked to higher burnout and stress levels, particularly among workers caring for patients with dementia. Other determining factors include high emotional demands, with 'emotion-rule dissonance', or the gap between required emotional displays and true feelings, leading to increased emotional exhaustion and depersonalisation (Harrad & Sulla, 2018). The experience of residents behaving aggressively was found to be the most significant factor associated with high prevalence of burnout rates (40 %) among nursing assistants (N = 124) in French nursing homes (Kandelman, Mazars & Levy, 2018). In addition, a study focused on Greek nurses and professional carers supporting older patients with dementia (N = 171) found that stigmatised views that workers project onto patients contribute to their professional burnout across multiple dimensions. For instance, nurses' negative beliefs about patients with dementia or feelings like shame or fear towards their attitudes are reflected in higher levels of emotional exhaustion and depersonalisation, along with feelings of reduced personal accomplishment, low willingness to help and a low sense of assisting with daily living activities. This study highlights the relevance of intervention strategies that

target professionals' attitudes towards these patients by improving their knowledge about dementia, eliminating stereotypes and prejudices, and developing empathetic communication skills to better understand patients' needs and attitudes (Mantzorou et al., 2019).

Results from a large multi-site study conducted in French residential care settings (N = 2,602), including nursing homes (*établissements d'hébergement pour personnes âgées dépendantes*, EHPAD), revealed an overall moderate burnout prevalence of 8.4 %, with job roles and seniority as the main determining factors. **Frontline workers with direct care responsibilities showed significantly higher levels of emotional exhaustion and depersonalisation**, along with notably lower personal accomplishment scores than physicians. Direct care activities are predominantly carried out by lower-paid and less qualified staff, particularly in the care of individuals with Alzheimer's disease. The effects of seniority on burnout risk followed an inverted U-curve, with the highest risk occurring at 11-12 years of experience. In contrast with expectations, the study did not confirm a negative association between workers' extended seniority and burnout. Instead, results showed that workers' sense of personal accomplishment increases with age. This suggests that the progressive acquisition of relational skills contributes to better management of difficult resident behaviours. Significantly, training on Alzheimer's disease played a protective role against burnout risks through three mechanisms: altering social perceptions of the disease, enhancing relational and technical skills to better manage challenging behaviours, and providing reassurance through available coping strategies (Zawieja & Benattar, 2019).

A study by Petersen, Wendsche & Melzer (2023) on nursing staff in Germany (N = 585) found a high prevalence of emotional exhaustion (44 %), a key aspect of burnout, with no significant differences across care settings. Specifically, the prevalence of emotional exhaustion among nursing home nurses was 37.8 %. Working at the limits of your capability emerged as the strongest predictor of emotional exhaustion across care settings, while the effect of low team cooperation was particularly salient in nursing homes compared to other care settings. The study also found that nurses reporting high emotional exhaustion were more likely to report sick leave days in the past year.

- **Anxiety and depression**

While there is a large body of evidence on stress and burnout among residential care workers and its implications on quality of care and turnover, research specifically exploring the prevalence and determinants of anxiety and depression is rare. Findings from a study in Spanish nursing homes (N = 101) highlight that, beyond job stressors (care burden), the staff's anxiety symptoms were associated with the quality of interpersonal relationships. Furthermore, residents' families and feelings of guilt about not providing care as they would like to are predictors of workers' anxiety levels (Gallego-Alberto et al., 2018). Significantly, the study found important connections between anxiety and depersonalisation, a burnout-related factor, showing that it is likely to have an impact on workers' attitudes to residents and the quality of care, along with other mental health problems for workers, given that it may be a cause of depression and turnover.

A recent study on the psychological burden of Greek nurses in dementia care settings (N = 115) revealed that most of the participants reported moderate levels of burnout (53.9 %) and low levels of secondary traumatic stress (58.3 %), with no participants reporting high levels in both outcomes. However, anxiety and depression emerged as significant concerns, with higher levels of burnout corresponding to increased severity of depression symptoms. The research identified critical protective factors in the quality of the work environment and nurses' sense of professional fulfilment. Nurses who felt their working environment and relationships with colleagues were positive experienced significantly less burnout and secondary traumatic stress and reported lower anxiety. Similarly, nurses with higher anxiety and depression exhibited lower levels of psychological rewards from their profession (Topi et al., 2025).

- **Absenteeism and presenteeism**

The issue of absenteeism and presenteeism in the residential care sector has been addressed in various studies, mostly in connection with the psychosocial work environment (Dhaini et al., 2016, 2017; Gustafsson et al., 2020; Schenieder et al., 2018).

In general, these studies assess the prevalence of presenteeism across groups of the HeSCare workforce. A study by Gustafsson et al. (2020) based on a representative dataset of Swedish workers (N = 45,098) in the HeSCare sector between 2001 and 2013, found that care assistants had higher odds of presenteeism than nursing professionals and other occupations in healthcare settings. The study

identified critical aspects of the psychosocial work environment, with high job demands, low job control and poor social support from colleagues and supervisors as the main determinants of presenteeism. The odds ratio for presenteeism among individuals with high job demands was greater for women than for men. Most notably, the study found a strong association between presenteeism and perceived low work ability across all occupational groups, with the odds ratios for presenteeism being highest among those with the lowest work ability levels. Indeed, presenteeism was identified as a predictor of future disability pension in another study by Gustafsson et al. (2019). Using longitudinal data linked with pension records, the study showed that nursing professionals and care assistants who frequently engaged in presenteeism (four or more times per year) faced a higher risk of future disability pension compared with other occupations, even after accounting for similar sociodemographic characteristics and physical and psychosocial working conditions.

A study by Dhaini et al. (2016), which focused on Swiss nursing homes (N = 3,176), showed that presenteeism was more common among nursing home care workers, with 32.9 % reporting presenteeism compared to 15.6 % reporting absenteeism. Crucially, while absenteeism showed no relationship with the psychosocial work factors examined, presenteeism was found to be associated with low social support and resource adequacy. Care workers who perceived their leadership as supportive and adequate had lower rates of presenteeism, and those who felt staffing resources were adequate also experienced lower presenteeism.

Similar results are reported by Schneider, Winter & Schreyögg (2018) in a study conducted on German nursing homes (N = 212). The study revealed a high prevalence rate for absenteeism (72 %) and presenteeism (81 %) among nursing home staff, with presenteeism occurring more frequently than absenteeism during periods of sickness. Role overload was found to increase both absenteeism and presenteeism, while a good work climate tended to increase the option of presenteeism rather than absenteeism. The study argues that psychosocial work factors affect individuals' perceived health or the threshold for feeling legitimised to take sick leave.

The prevalence and determinants of sickness absence in the HeSCare sector are addressed by two studies from Sweden based on large register-based longitudinal data over two decades (Marklund et al., 2019; Helgesson et al., 2020). Nurses and care assistants consistently experienced substantially higher compensated sickness absence days than workers in other occupations throughout the period, even after adjusting for sex and age characteristics. These differences are linked to higher exposure to physical and psychosocial risk factors, such as heavy workloads, strenuous working postures and high job demands (work-related stress, time pressure) and low control (Marklund et al., 2019). Significant differences emerged between nurses and care assistants, with the latter experiencing higher levels of exposure to a combination of physical risks and PSRs associated with sickness absence (Helgesson et al., 2020).

3.3.2 MSDs and other physical health issues

MSDs are identified as the most common occupational health outcome in the HeSCare sector, leading to significant consequences, such as absenteeism and presenteeism (EU-OSHA, 2024, 2025f). The high prevalence of MSDs in residential care settings is mostly due to the intensity and frequency of manual handling of patients compared to other HeSCare subsectors. Around 40 % of LTC workers report spending up to three-quarters of their working time moving or lifting patients, which is nearly double the proportion of workers in the healthcare subsector (23 %) (Eurofound, 2020). Workforce demographics is also a determining factor contributing to the prevalence and severity of MSDs in residential care. Evidence suggests that aged workers and those with pre-existing MSK conditions may be particularly vulnerable (EU-OSHA, 2025f).

Overall, research on the prevalence of MSDs among nursing staff in the HeSCare sector reveals similar patterns for institutionalised settings (hospitals and nursing homes). Lower back, neck and shoulder are the most affected areas, and a significant share of workers experience disorders in various body areas (Gorce & Jacquier-Bret, 2025; Simon et al., 2008). However, studies specifically targeting residential care facilities are limited and often part of broader research covering other care environments (Davis & Kotowski, 2015; Caponecchia et al., 2020).

The nurses' early exit study (NEXT study) is a major EU longitudinal research project (2002-2005) based on a large sample of nursing staff (N = 21,516) from seven EU countries (Belgium, Germany, France,

Italy, the Netherlands, Poland and Slovakia). Findings of this study showed that **workers in nursing homes had higher odds of back or neck-pain-related disability than workers in hospitals and home care institutions, resulting in higher levels of sickness absence and pain interference in daily and work activities.** The study also found that high exposure to physically demanding tasks such as lifting and positioning patients was significantly associated with higher disability risk among nursing staff in hospitals (OR = 1.35) and nursing homes (OR = 1.59) (Simon et al., 2008).

A more recent study based on the analysis of 33,200 MSD injuries among Spanish nursing assistants from 2013 to 2017 found significant differences in the type, causes and consequences of MSDs between hospitals and nursing homes (Camino López et al., 2021). **Back-related injuries were more prevalent at nursing homes, while shoulder-related injuries were more common at hospitals**. Specifically, back injuries occurred in 40.06 % of cases in nursing homes, compared to 37.07 % in hospitals, while shoulder injuries were recorded in 12.49 % of hospital cases versus 11.71 % in nursing homes. Patient handling emerged as the main cause of injuries, particularly in nursing homes, where lifting and transferring patients accounted for 49.20 % of cases, compared to 44.8 % in hospitals. One of the most significant findings was the substantial difference in duration of sick leave due to MSDs across care institutions. The average sick leave duration in hospitals was 35.63 days, compared to 26.89 days in nursing homes. This disparity was influenced by various factors, including the higher average age of hospital workers (older nursing assistants experienced longer periods of sick leave) and the public or private nature of the workplaces. Longer sick leave durations were associated with public sector centres (Camino López et al., 2021).

Several studies attribute a higher prevalence of MSDs in residential care settings than in hospitals mainly to the increased frequency and intensity of manual handling tasks faced by workers in these environments. Residential care workers often engage in physically demanding tasks such as lifting, repositioning patients with limited mechanical support or using assistive devices. This repetitive exposure elevates the risk of developing MSDs in the back, shoulders and upper limbs. Moreover, the nature of LTC residential settings, which typically involve longer patient stays and more continuous assistance, contributes to cumulative biomechanical stress. In turn, this leads to a higher incidence of MSDs (Menoni et al., 2022). Results from a study on LTC workers in Finland (N = 5,017) estimated that 36 % of back injuries were attributed to daily patient transfers. The findings also revealed that the history and severity (duration) of back pain acted as a predictor for future injuries. Crucially, the regular use of assistive devices in patient handling tasks reduced the risk of back injuries among this group of workers (Andersen et al., 2014).

In addition to the physically demanding nature of care work, many studies highlight the influence of organisational and PSR factors, such as inadequate staffing levels, irregular working-time patterns or poor social support, on the high prevalence of MSDs in the residential care subsector (Caponecchia et al., 2020). Findings from French research (N = 173) showed that residential care workers' negative perceptions of their health status were associated with their feelings of being unable to perform quality care due to time pressure and poor organisational support. Specifically, more than a quarter (27.7 %) of participants did not consider themselves to be in good health, and nearly a third (29.5 %) reported work absences over the previous year due to their professional activity. The most common work-related health issues were MSDs, sleep disorders, stress and depressive symptoms.

In this regard, findings from the aforementioned NEXT study found that **effort-reward imbalances were the main risk factors associated with high back or neck-pain disability across** all care settings and countries, with an effect size (OR of 5.05 in hospitals, 6.52 in nursing homes and 6.4 in home care) that was significantly larger than that of physical factors (ORs below 1.6) (Simon et al., 2008). Similarly, a study by Pélissier et al. (2015) identified effort-reward imbalances and atypical working hours as factors associated with upper-limb and neck MSDs in French nursing homes (N = 2,328). Over a 12-month period, 50 % of participants reported neck pain, 10 % experienced elbow issues and 22 % wrist complaints. Multivariate analysis showed a significant association of these issues with overcommitment, which was found for 42 % of the total staff. In addition, workers on non-fixed schedules had a 1.15 times higher prevalence of neck complaints than those with fixed schedules. The authors noted that while long working weeks were not a factor, a single long working day of more than 11 hours was associated with neck pain, a finding supported by previous research. However, working night shifts was found to have a protective effect against MSDs, which appears to contrast with existing evidence.

Differences in outcomes related to working time patterns can be attributed to the distribution of physical demands and the complexity of tasks. A recent observational study on the impacts of shift work on MSDs among nursing assistants in the USA showed that those working eight-hour shifts were at a higher risk of low back pain and more frequent loss of working days than those on other shifts, with night shifts exhibiting the highest prevalence (80 %) of MSDs, despite lower workloads. While night shifts generally entailed less physical activity, the nature of the tasks involved higher risks of awkward postures and more patient handling tasks were unassisted (Bellacov et al., 2025).

Many recent publications on MSDs in residential care in the EU draw on data gathered in the Danish observational study of eldercare work and MSDs (DOSES). Conducted between 2013 and 2016, the project consisted of a large workplace observational study involving a total of 941 workers from 20 nursing homes. The aim was to identify links between physical and psychosocial work conditions and the development of MSDs, such as low back and neck/shoulder pain (Karstad et al., 2018). The study also assessed the implications of MSDs on work performance and sickness absence among residential care workers, addressed in different publications (Oakman et al., 2020; Rasmussen et al., 2019).

A longitudinal study tracking 275 Danish residential care workers over a one-year period revealed highly prevalent and persistent patterns of MSK pain, with 61 % to 72 % experiencing low back or neck/shoulder pain every four weeks, with a one-year prevalence of 91 % for both regions. This is much higher than the mean annual prevalence for LTC workers and the general population. Notably, MSK pain was highly recurrent, with 33 % reporting low back pain or neck/shoulder pain at every measurement, and 24 % reporting constant pain in both regions across the year. On days when workers experienced MSK pain, nearly two-thirds (59 %) also reported interference with their work activities, and 18 % of workers reported that pain interfered with their work throughout the year. The authors found it surprising that despite experiencing interference on most days, this was not bothersome enough for workers to take sick leave, which may point to higher levels of presenteeism (Rasmussen et al., 2019).

Another multi-level cross-sectional study of 418 participants from various care facilities found that 67 % of workers reported having multi-site MSK pain, defined as pain in multiple body areas (Oakman et al., 2020). Interestingly, the study highlighted that individual-level factors such as perceived physical exertion and high quantitative demands were stronger predictors of MSK pain, while no effect was identified for the organisational and ward-level characteristics that were considered, such as staffing ratios, social support, frequency of safety and health measures, and infrastructures. The authors argue that these results might be attributed to the specific context of residential care in Denmark, with high standardisation of systems and policies in organisations, and may not be generalisable to other countries. They noted that all nursing homes had ceiling hoists available except for one, and that moveable hoists were also provided along with mandatory training on the use of lifting devices. Additionally, they emphasised that individuals' exposure to physically demanding tasks is framed within organisational contexts that influence workload distribution, equipment availability and residents' characteristics (Oakman et al., 2020).

The lack of significant effects of higher staff ratios on the prevalence of MSDs reported by Oakman et al. (2020) may be attributed to a reverse causality effect, where existing low back pain influences the allocation of workload on wards. However, another DOSES-related study by Wester et al. (2025) showed that changes in workload between workers (within-ward) and periods (within-worker) over time influence the prevalence and intensity of low back pain. The study examined the relationship between the number of residents per worker and low back pain over a 14-month period (N = 513). This longitudinal study design revealed the effects of changes in exposure for between-worker and within-worker effects, which is crucial for understanding how work organisation factors influence health outcomes. Their findings showed that workers who generally care for more residents and those caring for more residents than usual faced increased risks of low back pain, which is explained by the higher frequency of patient handling and awkward postures. These findings highlight the relevance of organisational interventions aimed at maintaining a consistent number of residents per worker over time to prevent overload and MSK risks.

A study by Minghelli et al. (2024) in Portugal also identified high prevalence rates of MSDs among residential care workers (N = 251) linked to patient handling tasks, with 74 % reporting having experienced work-related MSDs over a twelve-month period. The most commonly reported issues were low back pain (26.8 %), non-specific pain (21.8 %) and tendinopathy (21.3 %), with the lumbar spine,

shoulder and cervical spine being the body areas most frequently affected. **Patient transfers and repetitive movements were identified as the main mechanisms leading to these symptoms.** A key finding was that female workers were 3.8 times more likely to develop MSDs than their male counterparts.

In Spain, Mateos-González et al. (2025) assessed the relationship between MSDs and PSR exposures in geriatric nursing aides (N = 526) working in residential care centres. The study revealed extremely high rates of MSDs, with 98 % of the sample reporting symptoms in at least one body area over the previous 12 months. The lumbar region had the highest prevalence of symptoms (83.2 % reported symptoms during the previous 12 months, 64.2 % during the previous 7 days, and 50 % stated that the pain had led to some kind of incapacity). Following the lower back, the areas with the highest prevalence of symptoms were the neck (79.5 % annual prevalence, 56.6 % weekly prevalence and 36.5 % with symptoms that led to incapacity), and shoulders (68.8 % annual, 47.8 % weekly and 36.2 % incapacity). The study found that these issues are linked to **high psychological demands and time pressure, and that social support from supervisors acted as a protective factor against MSDs**, while peer support did not. This finding is explained by the low control on the job of the group of workers covered in the study, which accounts for the higher relevance of hierarchical support.

Also in Spain, Campoy-Vila et al. (2025) showed that geriatric nursing assistants in private nursing homes were significantly more likely to report worse working conditions and health-related conditions than those in public facilities (that is, higher quantitative demands or emotional exhaustion). This highlights the negative impact of privatisation on the exacerbation of occupational health inequalities. Regarding MSDs, while MSK pain was common across all facility types, considerable differences emerged in how workers managed pain: public sector workers were significantly more likely to take sick leave for neck pain (38.9 %) and report no functional difficulties from low back pain (28.6 %), whereas private and subsidised sector workers were notably more likely to continue working despite physical pain.

3.3.3 Work-related accidents and injuries

Accidents at work in the residential care sector can lead to a range of physical and psychological health outcomes for workers. EU-OSHA (2025a) has drawn attention to the high prevalence of work-related accidents in residential care settings compared to other HeSCare subsectors. Drawing on the European statistics on accidents at work (ESAW), the incidence rate for non-fatal accidents at work (those resulting in at least four full days of absence from work) in the residential care sector was 2,816 per 100,000 workers in 2022. Several risk factors of the work environment contribute to this figure. The residential care sector accounts for the highest percentage of establishments (38 %) in the HeSCare sector reporting a higher risk of slips, trips and falls (STFs). Residential care workers are among the most affected by physical overload, often reporting working in tiring or painful positions and overexertion related to lifting or transferring patients. Additionally, they face a high risk of workplace violence, albeit to a lesser extent than workers in healthcare settings. As an example, the residential care sector accounted for a third of violence-related accidents in the Italian HeSCare sector between 2015 and 2019, according to the national Workers' Compensation Authority (INAIL). A primary factor involved in aggression is working with residents who have deteriorating psychological conditions. The risks of accidents with equipment are also a prevalent issue, with 28 % of establishments in the residential care sector (compared to 33 % in the healthcare sector) reporting this type of risk in the ESENER 2019 survey. These accidents might be due to malfunctioning or insufficient maintenance, a lack of clear training or work procedures, or workers' personal errors due to overload and stress (EU-OSHA, 2025a).

Accidents at work can lead to a range of physical and psychological health issues for workers. Physical overload can cause a range of MSDs, such as osteoarthritis or carpal tunnel syndrome. These conditions affect muscles, tendons and nerves, which can result in chronic pain. Psychological health outcomes include emotional distress, burnout and depression, which can also lead to chronic conditions, absenteeism and overall lower work ability (EU-OSHA, 2025a). Yet, few studies have addressed workplace injuries in residential care settings in the EU. Colin et al. (2022) studied tracking data from 4,418 HeSCare workers from the French Working Conditions Survey between 2013 and 2016. They found that this group of workers have a workplace injury rate of 52.3 per 1,000 workers, which ranks them first among the overall working population, ahead of the construction industry and well above the national average of 33.5 per 1,000 workers. The most common injury sites were upper limb, back and

lower limb pain. Women and younger workers in lower-income roles and precarious employment conditions face higher injury rates among care workers. Additionally, workers with sleep problems or those using psychotropic drugs showed higher injury rates. The high prevalence of workplace injuries among HeSCare workers is driven by a combination of physical and PSR factors. The study also points to unpredictable and unflexible schedules, work-family conflict and insufficient preventive measures in the workplace as work organisational factors that contribute to high injury risks.

Some reports suggest that the prevalence of occupational injuries in residential care settings is notably higher than the average rates observed across other sectors. A recent study based on data from the French national health insurance system revealed that the accident frequency rate for residential care establishments for older people (EHPAD) stands at 81.1, which is more than three times higher than the average of 26.8. Additionally, the residential care sector has an elevated severity index that is three times higher than the general average (4.4 versus 1.5, respectively). In 2023, days of absence due to work-related accidents or occupational illness accounted for 4.7 % of full-time equivalents in nursing homes, compared to 1.4 % in other sectors. Residential care settings have a distinctive pattern, with manual handling accounting for 68 % of total accidents (compared to 52 % of all sectors). Patient handling, involving transfers without technical aids or residents losing their balance, was also the main cause of injuries and falls (Le Douce, 2025).

Similar findings were reported by the regional Valencia Institute for Occupational Safety and Health (INVASSAT, 2017) in Spain, which highlighted that the rate of workplace accidents in residential care settings during the 2009-2014 period was 50 per 1,000 workers in the region (52 nationally). This rate is significantly higher than the average of 30 per 1,000 and much greater than the rate for the healthcare sector, which stands at 18 per 1,000. The report assessed the risk factors involved in the high incidence of workplace accidents in the sector, based on a large survey of residential care workers (N = 1,952). Physical overexertion in manual handling of residents emerged as a highly significant risk factor, involved in nearly two-thirds of accidents in the sector (55 % compared to 42 % average), along with awkward postures, inadequate workspace conditions and a lack of assistive equipment, resulting in high rates of MSK complaints. A total of 76 % of the residential care workers surveyed reported complaints in the lower back area over the last few years, 71 % in the neck, and 64 % in the shoulder and arm region. Nursing assistants and direct care workers had higher prevalence rates. The study also identified PSRs and organisational factors associated with MSK complaints and other health outcomes, such as mental overload and limited autonomy on the job, low social support, shift work and night work.

4 Risk assessment and preventive strategies at the workplace level

A review of scientific literature on preventive interventions in residential LTC suggests that it is a relatively under-researched field compared with other activities in the HeSCare sector. Systematic reviews of research on interventions that address OSH for residential care workers reveal limited high-quality evidence. Only a small number of studies based on experimental designs analyse intervention effectiveness. The main preventive strategies at workplace level emphasise training and cognitive-behavioural interventions to improve stress coping and modify emotional responses. Organisational interventions that are focused on enhancing working conditions or adapting work practices remain scarce. Many involve task-specific training on patient transfer or other procedures (Herz, Bösl & Gebhard, 2024; Otto et al., 2021). This trend aligns with the general situation observed in the healthcare and LTC sector (SAASE, 2023; Gebhard & Herz, 2023). It contrasts with available evidence on the effectiveness of organisational interventions to improve workers' OSH and well-being, such as the introduction of flexible working or scheduling changes, or interventions involving increased control and opportunities for worker voice and participation in decision-making on work organisation practices (Fox et al., 2022).

Available evidence points to significant impacts of some intervention approaches. Multimodal work-health promotion programmes show promising effects in residential care settings and can be economically beneficial for employers through reduced sick absence and improved worker performance (Czakert et al., 2024). These programmes comprise several individual measures that address physical and psychosocial job demands through training actions on risk awareness, strength training and ergonomics to prevent and reduce back pain and lifting injuries, and other methods for stress management and healthy habits. The programmes can involve different degrees of workers' involvement in their design and implementation (Czakert et al., 2024). Overall, research shows that the interventions with more positive outcomes addressed both individual-level factors (such as personal skills and health) and organisational/environmental-level factors (such as workplace equipment and management support). This integrated approach, combining education, practical skills development, and structural or cultural changes, proved most effective in producing sustained improvements in residential care workers' OSH and work environment conditions (Wiisak et al., 2025).

Some studies, mostly from northern EU Member States, have explored the organisational determinants of prevention strategies in residential care settings. A study on the implementation of a participatory ergonomics programme among workers in LTC services in a Danish municipality showed that the adoption of organisation-level solutions often requires changes in procedures, communication and work structures. Such changes can face resistance or a lack of support from team members or management. In addition, financial constraints may slow down or prevent the execution of some organisational solutions, despite showing more effectiveness than other types of approaches (Rasmussen et al., 2017). In Norway, Johannessen et al. (2020) showed that managers and employers experience significant challenges in ensuring care quality and safety at work. Managers face difficulties in ensuring continuity of care due to staff shortages or sick leave, while workers report excessive quantitative demands and time pressure, as they have to perform additional tasks beyond their regular assignments. Additionally, knowledge transfer is challenging due to constant organisational changes and time constraints that prevent attendance of formal training sessions. In Denmark, Nabe-Nielsen et al. (2016) found that shift workers, particularly those on evening and night shifts, were less likely to participate in stress-reducing activities in the workplace than fixed-day workers. Similarly, shift workers reported that they benefit less from the implementation of flexibility measures and participate less frequently in improvement of work procedures or training than fixed-day workers. Importantly, the quality of leadership explained these disparities.

A study by Magerøy et al. (2024) in Norwegian nursing homes demonstrated how nursing home managers face complex challenges in balancing their dual responsibility of managing workers' OSH and residents' safety and care quality. While these two goals are interrelated and should be understood from a holistic perspective, with work engagement and a good working environment serving as factors that positively influence patient safety outcomes, the study emphasised that line managers require adequate resources, support and reduced pressure from top-level management to effectively perform their role. Drawing on the experience of the pandemic in Swedish LTC services (including home care and

residential care settings), Dellve and Skagert (2024) highlighted that supportive organisational conditions are essential for effective risk prevention management. Their findings also stressed the need to recognise the expertise and lived experiences of frontline workers, as they have critical knowledge about what interventions can be implemented within the specific constraints and resources of residential care environments.

The main preventive measure identified across stakeholders consists of increasing staffing levels. This addresses the source of OSH risks in residential care settings, as chronic understaffing is the main cause of excessive work demands that undermine the effectiveness of workplace preventive strategies. As one union representative who was interviewed stated, even if lifts are available and their use is recommended, 'in practice, it's difficult to implement because we simply wouldn't be able to handle half the patients. (...) Would a solution be to simply hire more staff? Yes.' This general recommendation extends to interventions targeting critical aspects of work organisations, such as the introduction of multidisciplinary and autonomous work teams, and other measures aimed at increasing the predictability of shift schedule changes, particularly when changes are made without adequate notice.

The employers' representative noted that residential care settings are typically smaller and have more limited managerial resources than hospitals. These differences impact preventive strategies in the sector, with managers frequently holding multiple responsibilities. This limits their ability to focus on implementing specific interventions beyond formal compliance and enforcement of minimum legal requirements. In the view of the employers' representative, the adoption of technical interventions such as lifting devices is more effective when embedded in organisational 'zero-lift' approaches that train workers on how to instruct and support patients to use devices by themselves. In this approach, workers develop better knowledge of and relationships with patients, and minimise risk related to physical overexertion: 'You don't need big means to do this. It's just a process, short training, and that's it.' The managers' representative stated that many establishments are opting for the installation of ceiling hoists to assist workers in lifting and transferring patients, as there is evidence that this is a cost-effective intervention with significant returns in terms of reduced sickness absence and accident rates. However, she noted that much of the equipment is not being used effectively or remains underutilised, so there is a need to embed these technical solutions in a 'prevention culture'. In addition, some innovative establishments are adopting flexible work scheduling arrangements, such as four-day work weeks instead of traditional five-day schedules, with a view to improving workers' satisfaction with the job and retention.

The examples of workplace interventions presented in this section provide a good illustration of strategies identified in previous research on the HeSCare sector (EU-OSHA, 2025f, 2025k). A common theme in the research is the links between workers' and residents' outcomes. Examples of innovative care provision models and living facilities highlight the dual benefits of these interventions in terms of care quality and improved working environments (Boxes 20, 21 and 22). A second group of examples of interventions includes organisational initiatives that address critical aspects of work organisation associated with PSR and MSK risks, such as autonomy on the job and team collaboration (Boxes 25 and 26), working time flexibility and schedules (Boxes 27 to 30) and the adoption of assistive equipment and technical aids for reducing overexertion and risks of MSK injuries (Boxes 35 to 38). A third group of preventive interventions consists of individual approaches, mostly based on training to promote workers' health literacy on ergonomics and MSK risks, or based on behavioural approaches to cope with psychosocial stressors.

4.1 Risk assessment practices in residential care establishments

Research evidence on current practices and procedures for occupational risk assessments in residential care facilities is very limited. The main source of information on this topic is the ESENER survey. According to ESENER 2024, 84 % of establishments in the residential care subsector reported carrying out regular risk assessments, compared to 73 % in the healthcare and 80 % in the social work subsectors. Risk assessments in residential care facilities typically cover chemical and biological risks, reported by 87 % of the establishments, work organisation factors such as work schedules (80 %), physical work demands and posture (76 %), and supervisor and employee relationships (71 %). These figures are similar to averages observed across HeSCare subsectors.

Along with risk assessments, the residential care subsector shows the highest share of establishments that have implemented preventive actions across all types of measures over the past three years compared to other HeSCare subsectors. For MSD prevention, the most common intervention is the provision of assistive equipment for lifting and moving patients, reported by 84 % of residential care establishments, compared with 72 % in the broader HeSCare sector. Task rotation to reduce repetitive movements is also common, with 62 % of residential care establishments adopting this practice versus 52 % in HeSCare. Other measures, such as the provision of ergonomic equipment (76 %), encouragement of regular breaks (68 %) and the option of reducing working hours (71 %), align closely with practices in the overall HeSCare sector.

ESENER 2024 also reports on formal procedures in place to prevent PSR factors. Residential care establishments show figures similar to those of other HeSCare subsectors on the presence of such procedures, with 70 % having established procedures to address bullying and harassment, 72 % having procedures to manage threats or violence, and 66 % having conducted surveys to assess work-related stress issues in the workplace. Regarding the adoption of PSR prevention measures over the past three years, the most prevalent intervention reported by residential care establishments is allowing employees' involvement in decision-making processes (76 %). Around 62 % have implemented changes in work organisation practices, 66 % provide counselling services for employees, and 61 % offer training on conflict resolution. Additionally, 41 % have introduced interventions that address excessive working hours and irregular schedules.

- **Return-to-work policies**

Return-to-work measures are typically characterised as a 'tertiary' intervention focused on remedial support and rehabilitation. Supporting workers in their recovery and reintegration to work is of particular importance in the context of residential care work, given the high prevalence and persistence of MSDs and work-related injuries that affect workers' performance and their future ability to work. These issues are also evident in the high levels of absenteeism and presenteeism, further exacerbating staff shortages in the sector. Return-to-work policies aim to prevent these issues by providing organisational support and accommodations for workers who are managing chronic health conditions (as illustrated in Box 21). According to ESENER 2024, 65.9 % of establishments in the residential care sector indicated that they have a procedure in place to support employees returning to work after long-term sickness absence. This is a similar rate to the average for all sectors (66 %) but slightly lower than the average for establishments in the HeSCare sector (69 %).

Box 21: Reintegration into the work process after illness (Austria)

The initiative was implemented by Kuratorium Wiener Pensionisten-Wohnhäuser (KWP), the largest provider of care and support for older people in Vienna (Austria). It was designed to support workers returning to work following sickness absence of six weeks or more. Workers returning from extended sick leave often faced challenges in getting back to work, which frequently resulted in further absence. Managers lacked the specialised support needed for these situations, and teams were left to fill the gaps left by absent colleagues. The primary goal of the initiative was to promote healthy and sustainable reintegration into the workforce, safeguard jobs, and ensure workers remain satisfied and healthy in their roles for as long as possible. This is particularly important in sectors with labour shortages, such as care and nursing. An expert in reintegration management was appointed to develop counselling services for workers and managers. A central element of the initiative is the introduction of part-time reintegration, guided by a company-wide policy. This approach allows for a gradual return, considering various re-entry scenarios. The programme is further supported by initiatives like conflict management, health promotion activities and worker stress surveys. Since its launch in 2021, over 100 workers have been successfully reintegrated, resulting in a notable reduction in absenteeism due to new illnesses and decreased staff turnover. Workers report feeling more secure and a stronger sense of identification with the company due to the support they receive during challenging times.

4.2 Interventions tackling PSR and mental health issues in the workplace

Residential care workers provide essential support to dependent people across physical, social and emotional dimensions. Some of the residents have complex conditions. The sector has been characterised as 'fertile ground for persistent stress' (Antipas et al., 2024), resulting from organisational factors, such as excessive workloads and reduced social support, along with other risks stemming from the relational aspects of care work and the experience of challenging events, such as aggressive behaviour or mistreatment by residents, and dealing with residents' deaths. Nevertheless, research on preventive strategies addressing PSRs of care workers shows that most interventions focus on individual approaches (coping skills development). There is limited evidence for interventions at the organisational level or broader strategies (Antipas et al., 2024; Ellis et al., 2025).

A systematic review by Antipas et al. (2024) examining interventions to mitigate work-related stress among professional dementia caregivers revealed the predominance of individual approaches, with an emphasis on secondary interventions aimed at reducing workers' stress symptoms through increased skills and knowledge, and therapeutic support. This type of intervention includes training focused on assessment and non-pharmacological treatment strategies for behavioural and psychological symptoms of dementia, as well as training in communication skills, care methods and dementia knowledge. These interventions have shown positive effects on workers' self-efficacy and personal accomplishment, although their effectiveness is dependent on the implementation context. Indeed, higher qualification standards can paradoxically increase workers' stress when they cannot provide care in the way they have learnt, due to organisational constraints or poor managerial support. Similar results are reported by Ellis et al. (2025) in a systematic review of intervention strategies targeting the mental health of aged care workers. Almost all the studies consist of individual-focused approaches, including relaxation training (Tai Chi, yoga and coherent breathing); emotion regulation training (mindfulness, cognitive behaviour therapy and psychological first aid); and behavioural management education for challenging resident behaviours.

4.2.1 Organisational strategies for PSR

Organisational strategies extend beyond individual employee training to include broader measures such as the implementation of new care models or facilities aimed at improving supportive work environments. These interventions focus on enhancing staff-resident relationships through patient-centred care and improving work organisation aspects like teamwork, decision-making, workload balance and scheduling. While many interventions yield immediate benefits in reducing stress, burnout and emotional exhaustion among workers, their long-term effectiveness remains uncertain. Interventions that integrate managerial support with worker engagement through feedback and process adjustments show greater potential for sustained positive outcomes (Antipas et al., 2024; Ellis et al., 2025).

- **Innovative living facilities**

In LTC, there has been a shift from predominantly medical approaches focused on mental and physical health towards an increased emphasis on psychosocial well-being and quality of life. This shift has been driven by changes in the functional and health status of the aged population. Since many people live longer and remain able to perform daily activities for independent living, there is an increasing demand for care settings that replicate homelike environments, enabling residents to experience greater independence and autonomy. In addition, there is growing acknowledgement of the potential benefits of the physical and social environment in promoting the well-being and quality of care of residents, who benefit from more individualised care decisions and improved relationships with staff.

Innovative care arrangements that were typically identified in the research include small-scale, homelike living facilities, in which residents live as normally as possible. The rigid daily routines characteristic of traditional nursing homes are minimised, for example, by involving residents in daily household tasks. Other arrangements seek to involve residents' families in care decisions and in the organisation of residents' daily activities. Some promote residents' integration with external communities through intergenerational living or shared housing arrangements, while others focus on building community within the facility itself, for instance, by establishing village-type communities. These arrangements are

also characterised by integrated staff responsibilities where care workers perform not only care-related tasks, but also domestic, social and recreational roles (Brouwers et al., 2023; Pywell et al., 2025).

Research on innovative LTC living arrangements consistently finds that small-scale homelike care settings provide a good basis for improving the working environment of residential care workers (Brouwers et al., 2023; Pywell et al., 2025; Vermeerbergen et al., 2017). Workers in small-scale facilities perceive greater job autonomy and reduced time pressure compared to workers in larger institutions. Care workers report greater ability to respond to residents' needs and to structure their working day without rigid task requirements. Smaller resident groups contribute to reducing workload, and the involvement of residents in everyday activities contributes to reducing workers' care burden. However, emotional demands and task variability tend to increase when workers spend more time with residents and their families. Higher job demands are not consistently balanced with higher social support across all normalised small-scale homes, with workers often reporting insufficient staff coverage relative to comparable large-scale facilities (Vermeerbergen et al., 2017).

Evidence on other work-related outcomes shows mixed results. Some studies point to lower peer support due to the absence of formal teams for discussing care issues and sharing tasks, and inconsistent support and information from supervisors. Conflicting findings across studies could be explained by variations in implementation due to cost-cutting pressure. Some nursing homes may have had higher levels of teamwork or larger staff-to-resident ratios, while others were understaffed with low teamwork levels, resulting in imbalances between job demands and resources (Vermeerbergen et al., 2017). Overall, findings on workers' mental strain and burnout levels did not show consistent effects associated with the transition to these small-scale arrangements (Vermeerbergen et al., 2017; Pywell et al., 2025).

In short, research suggests that the work environment in small-scale living facilities may foster conditions that enhance job autonomy and peer support. A study by Adams et al. (2017) on the implementation of small-scale environments in nursing homes in the Netherlands (N = 138) found that job satisfaction and motivation were significantly higher than those in typical traditional nursing homes. Job autonomy and social support were also significantly higher, while job demands were significantly lower. Critically, social support was found to be the most significant predictor of job motivation and job satisfaction in both types of nursing homes. A similar study conducted in the Netherlands (Box 22) reported positive effects of small-scale facilities on workers' autonomy and social support, although no significant differences were observed in terms of workers' burnout.

Box 22: Working in small-scale living facilities for older people with dementia (Netherlands)

In the Netherlands, LTC for older people with dementia is increasingly organised in small-scale, homelike living facilities for small groups of residents. These facilities aim to offer a homelike environment for a small group (8-10) of residents, who are encouraged to engage in more meaningful daily living activities. Nursing staff in small-scale facilities also perform more integrated tasks, including health and personal care, and household chores, usually in cooperation with residents and their relatives. Findings from a comparative study of the working conditions of residential care workers (N=305) in these two types of LTC institutions (N = 305) over a one-year period revealed significant differences.

Nursing staff in small-scale living facilities experienced significantly more autonomy on the job, lower workloads and fewer physical demands than those in regular settings. They also had increased social support from co-workers. However, no significant differences were observed in social support from supervisors or burnout symptoms between the two groups.

The study highlights the effects of work organisation aspects on working conditions and their influence on the well-being of nursing staff, with relevant implications. In line with previous studies, differences experienced in the levels of work autonomy moderate perceptions of lower demands and workload. In addition, working in small-scale settings in which a small, permanent team is responsible for a small group of residents contributes to stronger team cohesion and more favourable working conditions for nursing staff. The study acknowledges limitations, including

potential bias from staff self-selection and high non-response rates, along with differences in residents' characteristics between the two types of facilities (Zwakhalen et al., 2018).

▪ Person-centred care provision models

Over the last decade, there has been a growing interest in patient-centred care (PCC) approaches that emphasise the importance of recognising residents' needs and the relational aspects of care work to improve quality in the provision of care services. These innovative care models have also been studied for their effects on residential care workers across care settings (Van Diepen et al., 2020; Barbosa et al., 2015). PCC methods build on a fundamentally ethical and relational framework that extends from patients to workers themselves. PCC focuses on individualised care delivery and respect for residents' autonomy and self-determination, which can contribute to creating a more meaningful and purposeful work environment. PCC organisational practices create conditions where workers gain greater control over their work and a sense of agency, and they provide workers with structured methods for meaningful interactions with patients. Overall, PCC has positive associations with most psychosocial aspects of the work environment in residential care settings. There is evidence supporting its effectiveness in reducing stress of conscience, a form of work-related stress that arises when carers are forced to act against their personal or professional standards, as PCC aligns workers' practice with ethical values. There is also evidence of the potential benefits of PCC for organisations through improved retention and reduced staff turnover intentions, particularly in dementia care settings. However, findings vary substantially depending on research design methods. These positive results appear most evident in cross-sectional studies but require sustained organisational commitment and implementation efforts to produce lasting improvements in worker health and well-being (Van Diepen et al., 2020; Barbosa et al., 2015).

Co-creation of care plans is a core component of PCC. It involves collaboration between care workers and residents (often including relatives) in developing and implementing care plans. Scheepers and Vollmann (2024) showed that this approach to treatment helped reduce perceptions of emotional demands and experiences of burnout among nurses in LTC facilities in the Netherlands (N = 256). Rather than decreasing workload, the benefits of co-creating care plans are attributed to enhanced care quality and improved interactions between nurses and clients. By promoting shared decision-making, effective communication and mutual understanding, the emotional intensity of care work diminished. Clients felt more heard and understood, making them less likely to present emotional challenges as they became more engaged in their own care planning.

Improved emotional and communication skills gained through PCC can also be effective in reducing workers' burnout and stress levels. Barbosa et al. (2016) assessed the effects of a PCC-based psycho-educational intervention on a group of Portuguese residential care workers. The intervention consisted of eight weekly sessions with the dual aim of integrating PCC-based strategies in care routines and providing workers with coping strategies to manage work-related stress and burnout. Their findings showed that participants experienced a significant decrease in burnout levels and improvements in how they interact and communicate with patients, with greater frequency and quality of conversations after the follow-up period. However, the intervention did not result in a sustained reduction of stress. Job satisfaction showed no significant intervention effect, possibly because the intervention did not address broader workplace factors, such as management support or organisational conditions.

There are many examples of interventions that show how residents and residential care workers benefit from the implementation of PCC approaches. These interventions indicate that it is feasible to prioritise quality of care without overburdening staff through a more supportive work environment (Box 23). Training programmes that focus on understanding the lives and preferences of residents enable workers to form more meaningful relationships, fostering a sense of purpose and fulfilment in their roles. This approach leads to positive outcomes in the quality of care for residents with dementia and reduces workers' perceived time pressure and job dissatisfaction (Box 24).

Box 23: Need-based care model for residents with dementia (Netherlands)

Need-based care consists of a standardised model designed to assist carers in nursing homes in delivering PCC. It focuses on responding to residents' unmet needs with tailored non-pharmacological interventions (such as aromatherapy, massage and multi-sensory stimulation), which have shown positive effects on patients with dementia. A study using an experimental design in Belgium argued that prioritising unmet residents' needs in nursing homes, as prescribed by the need-based care method, was feasible despite the challenging circumstances of the Covid-19 pandemic at the time of the study. Against the assumption that the extra time invested in residents in need-based care might negatively affect workers' well-being, the implementation of this approach did not result in higher levels of burnout or emotional exhaustion (even despite the added pressures of the Covid-19 pandemic). The intervention resulted in workers having a greater sense of competence in dementia care and in dealing with care challenges among participants. However, the authors acknowledge that these results may be attributed to a comprehensive implementation strategy consisting of effective training and supportive leadership in addressing challenges and adapting daily practices of PCC strategies (Gillis et al., 2024).

Box 24: Nursing intervention (DEMIAN) in routine care with persons with dementia (Germany)

DEMIAN aimed to improve the quality of life of people with dementia in LTC facilities. It was implemented in 20 German nursing homes for a total of 180 care workers. The core of the initiative was to identify moments and situations that are individually meaningful to a resident and then use this knowledge to plan and provide care, thereby improving the 'quality of the moment'. Carers took a two-day training programme delivered over two weeks, in which they learned how to identify meaningful situations for each resident by means of a person-centred communication strategy. After this training, staff entered a six-week implementation phase, during which they gathered information from residents, relatives and co-workers and developed individualised mini-intervention plans in a structured team case conference. Over the six weeks, care providers integrated these emotion-focused mini-interventions (including sharing photos, music and memories, or sensory experiences) into residents' daily routines. The interventions were refined through coaching sessions and residents' responses. The intervention proved effective at supporting the improvement of PCC strategies. It had positive outcomes for the quality of care of people with dementia and the reduction of workers' perceived time pressure and job dissatisfaction. No significant changes were observed in overall strain (Berendonk et al., 2019).

- **Changes in work organisation practices improving teamwork, social support and work-life balance**

Organisational interventions focus on improving how work is organised to address PSRs associated with high workloads, long working hours, irregular schedules, a lack of autonomy and poor social support (EU-OSHA, 2025k).

A supportive work environment is an important protective factor (EU-OSHA, 2025k). The creation of such an environment entails a broad range of interventions to promote workers' autonomy and empower workers to openly discuss their mental health issues through established communication channels. The examples highlighted below illustrate the critical role of collective bargaining and social dialogue institutions at different levels in promoting social support and workers' involvement in decision-making in residential care establishments (Boxes 25 and 26). By actively encouraging worker participation and addressing mental health needs, these programmes aim to create a workplace culture where open communication and mutual support are prioritised. Some studies stress the need for multi-level support for the effectiveness of participatory OSH programmes in the workplace (Zhang et al., 2016a).

Box 25: Promoting workers' voices in LTC workplaces (Netherlands)

This example focuses on innovative measures aimed at enhancing job satisfaction and employee retention in the LTC sector by promoting direct participation at the workplace level in the Netherlands. The measure involved adding a clause on employee participation in proposed organisational changes to the collective agreement for the LTC sector. The new clause was drafted as follows: *You can expect your employer to be genuinely interested in your opinion and to enable you to express your opinion at an early stage when a proposed decision affects the organisation and performance of your work or your profession. This applies regardless of your job level: whether you work in a support or staff role, as a Home Helper, Assistant, Caregiver (IG), (district) Nurse in a treatment role, or a Nurse Specialist. The strength and effectiveness of the healthcare organisation are determined by the collective contribution of all workers*.

In one company covered by the case study, this regulation indirectly led to the adoption of a new leadership style that delegates responsibilities to the lowest possible level. This intensified communication between managers and workers on OSH relevant issues, such as work-life balance, workload and the sustainable employability of older workers.[11]

Box 26: Supporting the mental health of LTC workers – European Works Council

Clariane is a large LTC company headquartered in France and operating in Belgium, Germany, Spain, Italy and the Netherlands. The European Works Council (EWC) has eased active social dialogue in the field of OSH with the establishment of a working group to reduce absence at work. This working group has been instrumental in developing a framework of interventions that address PSR at work. A joint statement agreed in 2022 focused on management quality and the working environment, work organisation, and social and psychological support. This led to the development of a standard on social and psychological support, which is being rolled out across all countries where the company operates. This standard is structured around three pillars: providing channels for workers to voice concerns (like hotlines and 'persons of trust'), offering support services (such as mediation and coaching), and focusing on stress prevention through training. The intervention contributed to raising awareness among workers about the support measures. An annual employee satisfaction survey revealed that 72 % of workers know about the psychological and social support services offered and believe they could benefit from them. The initiative also led to the adoption of various protocols, declarations and a wide range of support services (EU-OSHA, 2025i).

Recognition of the relational nature of care work has emerged as a critical aspect of understanding how to improve working conditions and care quality (Cranley et al., 2023, 2020). Effective teamwork has a substantial impact on residential care workers' satisfaction with the job and intentions to stay at their current positions. It also improves resident care (Dahlke, Stahlke & Coatsworth-Puspoky, 2018).

Management plays an important role in fostering effective teamwork. In this regard, Banerjee et al. (2021) explored initiatives in Canadian nursing homes that provided structured opportunities for workers and managers to come together and discuss their work in regular meetings to identify and resolve problems. Participants perceived that the reflection process created an authentic communicative environment characterised by respectful and honest conversations that differed markedly from the usual workplace culture. This environment enabled staff to feel heard and develop trust in their collective problem-solving capabilities. In this line, the implementation of continuous improvement programmes, whereby staff regularly met to identify issues and share proposals for solutions, was found to have positive impacts on workers in a Belgian nursing home, particularly in creating more structured and predictable work environments with reduced time pressure, increased autonomy and substantially higher work engagement (Benders et al., 2019).

[11] This initiative was covered as a case study by the EU-funded DEVCOBA project. More information is available at: https://devcoba.unimi.it/

Self-managed or self-organising teams represent an innovative approach to providing autonomy in LTC settings. Teams can be self-managed in the sense that they are operationally autonomous and self-governing, with leadership tasks and operational tasks resulting in a higher degree of decision-making autonomy and more task variety (Boxes 27 and 28).

Box 27: Autonomy and team collaboration in a Noël Leduc nursing home (France)

The concept of an autonomous team in a health or social care facility involves forming groups of frontline professionals who have complementary skills. The French establishment where this initiative was implemented is a nursing home with 70 residents. Since 2020, it has been organised around 3 multidisciplinary teams of around 8 to 12 frontline professionals (nurses, nursing assistants and personal carers). Each worker in each group chooses a consultant role, which has been predetermined by the team. These roles can evolve according to the needs of the field and rotate to prevent power imbalances and strengthen shared responsibility and engagement. The implementation is part of a comprehensive cultural transformation supported by a training and coaching organisation. The initiative led to higher satisfaction levels among residents and families, along with reductions in absenteeism and staff turnover.[12]

Box 28: Reorganisation of tasks at Kildebakken nursing home (Denmark)

At Kildebakken nursing home, a series of targeted interventions was introduced to enhance the work environment and improve the quality of care. Central to this effort was the adoption of PCC, which emphasises residents' needs over strict schedules. A working group conducted a 'task mapping' exercise to identify and mitigate periods of staff overload by redistributing tasks and creating a more balanced workflow. This led to changes in the timing of specific tasks, such as rescheduling walks and bathing to align with resident preferences, and reallocating certain duties, such as patient transfer or cleaning tasks from carers to specific staff. Additionally, the home offered workers flexible working hours, allowing them to adjust their schedules and choose between working every second or third weekend. The evening staff schedules were also adjusted to ensure more personnel were available when residents needed them most. The reorganisation of tasks and schedules significantly improved working conditions, reducing staff overload and boosting job satisfaction. As a result, the facility experienced no vacant positions and low staff turnover. It earned a strong reputation that attracted spontaneous applications. The flexibility and focus on resident needs empowered the staff, creating a well-regarded workplace that effectively balanced high-quality care with employee well-being.[13]

Highly demanding work schedules are a critical aspect of working conditions that affect the retention and well-being of residential care workers. One critical organisational strategy is to ensure adequate rest and improved work-life balance, while increasing workers' control over their schedules. However, interventions to tackle long or irregular working hours were among the least common measures taken by residential care establishments to prevent PSR, according to ESENER survey data (EU-OSHA, 2025k). Examples of initiatives designed to enhance the work-life balance of residential care workers include restructuring working hours into long shifts (Boxes 29 and 30), offering flexible scheduling tailored to individual needs (Box 31), and providing organisational support for workers' family responsibilities (Box 32).

[12] This initiative was reported as an example of good practice by the French National Agency for Support of Performance in Health and Social Care Establishments (Agence nationale de la performance sanitaire et médico-sociales [ANAP]). More information is available at: https://www.anap.fr/s/bibliotheque-idee-recueil-detaille?recordId=a06Jv00000IbfQ1IAJ

[13] This initiative was identified as an example of good practice for the recruitment and retention or residential care workers by the Alliance Franco-Danoise for LTC care. More information is available at: https://www.fnadepa.com/wp-content/uploads/2024/02/LIVRET-REGARDS-CROISES-ENTRE-LA-FRANCE-ET-LE-DANEMARK-Challenge-2023.pdf

Box 29: Restructuring of work schedules and autonomous multidisciplinary teams enhancing work and care quality at Hesperie nursing home (France)

In 2022, the Hesperie nursing home (Britanny) faced recruitment and retention challenges with 10 permanent positions unfilled. In response, it implemented a series of initiatives to improve working conditions and quality of life. Following workers' requests, a first measure was the reorganisation of working hours into continuous 10-hour shifts to improve work-life balance. This change led to the elimination of handovers between morning and afternoon teams, as information exchanges take place throughout the day. This resulted in restructuring of multidisciplinary daily team meetings to foster social support and team cohesion. Structured daily meetings were established, with each day focusing on a specific theme: ethical reflection on Mondays, risk rights on Tuesdays, institutional time on Wednesdays, personalised support projects on Thursdays, and relaxation or games activities on Fridays. These changes yielded positive outcomes in terms of care workers' social support. The new organisation has revitalised team dynamics and contributes to a strong sense of belonging. Caregivers feel more able to express themselves and that they are listened to and empowered to offer suggestions. Occasional events like breakfasts and visits from a yoga instructor for the staff have further contributed to this sense of well-being. The impact on recruitment and retention was direct and measurable: the nursing home successfully filled all its positions, signing six permanent contracts in June 2023 alone.[14]

According to the organisation's representative interviewed in the context of this research, prior to the reform of the work schedule, work organisation in the establishment was characterised by high levels of absenteeism and dissatisfaction with the job. The manager, who is a nurse by profession, initially had a negative opinion about long working shifts but now believes that staff have enough rest periods during the day and can reconcile their personal and professional lives. However, she noted that this work organisation is not fully transferable to other organisations due to reduced staffing ratios (the Hesperie nursing home benefits from having one worker for six residents, which is better than many establishments).

Box 30: Work schedule reorganisation at Notre Dame nursing home (France)

In 2013, the Notre-Dame de Lourdes nursing home adopted a comprehensive intervention strategy to address a critical staffing shortage. In parallel with an external communication campaign on social media, management took measures to improve working conditions by introducing 12-hour work schedules to help staff better balance their professional and personal lives. The combination of improved working conditions and a successful recruitment campaign allowed the nursing home to overcome its staffing challenges, ensuring a more attractive and sustainable work environment.[15]

Box 31: Personalised working hours in Margretecenteret nursing home (Denmark)

At the Centre Margretecenteret nursing home in Lolland (Denmark), new management implemented significant changes in work organisation practices to address high staff absenteeism and dissatisfaction among residents and families. First, the new director opted to increase her visibility and engage directly with staff, asking about their preferences and work schedules. This led to the introduction of 'tailor-made' work-schedules allowing workers to choose their work hours and take leave with short notice to accommodate their personal lives. The facility also shifted to a person-centred care model, removing rigid scheduling of tasks and enabling staff to plan their own working day based on residents' individual needs and preferences. These changes resulted in positive outcomes for the staff's psychosocial work environment. By allowing staff more autonomy to decide how and when care tasks are provided, they gained confidence in their professional practices and

[14] Alliance Franco-Danoise for LTC care. More information is available at: https://www.fnadepa.com/wp-content/uploads/2024/02/LIVRET-REGARDS-CROISES-ENTRE-LA-FRANCE-ET-LE-DANEMARK-Challenge-2023.pdf
[15] Alliance Franco-Danoise for LTC care. More information is available at: https://www.fnadepa.com/wp-content/uploads/2024/02/LIVRET-REGARDS-CROISES-ENTRE-LA-FRANCE-ET-LE-DANEMARK-Challenge-2023.pdf

reported improved job satisfaction. The organisation also implemented a new proactive follow-up system for sick leave. The manager of an absent worker follows up with them on the third and fifth day of absence. More frequent or prolonged absences lead to prompt interviews to identify and address any underlying difficulties. The most significant outcome of this initiative was a considerable drop in sickness absence, by as much as 15 %, and an increase in the quality of working life.[16]

Box 32: Nursery school and playroom service to reconcile shift work with childcare duties (Spain)

This initiative was implemented by the Fundación Nuestra Señora del Rosario in Spain to address work-life balance challenges for its staff working in HeSCare facilities. Most of these workers are women on rotating shifts who live in rural areas with limited services, making it challenging to balance childcare and work with family life. This situation often led professionals to consider leaving their jobs. The main aims of the intervention were to promote gender equality, provide a work-life balance service, retain workers and enhance job satisfaction, thereby mitigating PSRs such as stress and absenteeism. To address these issues, the Foundation established a collaboration agreement with a local nursery school, La Casita, to offer nursery and playroom services for workers' children up to 12 years old. Prior to this, a survey was conducted to assess staff needs. The service is flexible, available every day regardless of the number of users, and can also accommodate individuals outside the foundation. A key achievement was assisting a worker who had requested reduced hours to care for her child. As a result of the childcare service, she did not have to alter her working conditions (Federation of European Social Employers & European Federation of Public Service Unions, 2024).

4.2.2 Individual strategies for PSR

Individual strategies through targeted training and skills development are the most common approach to managing PSRs in residential care settings, especially regarding the relational challenges that arise when working with patients with dementia or those who behave aggressively. These strategies aim to equip care workers with knowledge, techniques and coping mechanisms to effectively handle difficult interactions, reduce stress and improve both patient and caregiver outcomes.

Research on the topic is rich and provides multiple examples of training interventions. Overall, evidence suggests that training programmes are effective in improving staff knowledge and a sense of competence in managing challenging behaviours. Training can enhance coping strategies and reduce job stress, ensuring that staff are equipped with the skills needed to maintain consistent resident care. However, the effects on staff attitudes and emotional well-being showed mixed results. Some studies reported an improvement in burnout and job satisfaction levels. In other studies, these aspects were largely unaffected (Spector, Revolta & Orrell, 2016). Participants in a self-compassion training programme in nursing homes in the USA (N = 22) reported improvements in stress management, emotional support, boundary-setting in their caregiving role and a broader sense of connection to others. Self-compassion training is an intervention designed to improve psychological well-being and stress coping by teaching individuals to relate to themselves with kindness and understanding, particularly in difficult situations (Lathren et al., 2021). Various studies have evaluated the effectiveness of these similar approaches in the context of residential care across EU countries.

Affect regulation training (ART) is a personal resource-focused intervention focused on improving residential care workers' emotion regulation abilities. ART integrates cognitive-behavioural and stress relaxation techniques with mindfulness-based strategies to improve stress and emotion regulation. Buruck et al. (2016) found positive impacts of an ART intervention on a group of residential care workers (N = 96) in German nursing homes. Participants were care workers who face high emotional demands, including aggressive behaviour of residents and time pressures due to understaffing. The training programme addressed various skills, such as relaxation techniques, acceptance and tolerance of emotions, effective self-support, the identification and analysis of causes of personal emotions, and

[16] Alliance Franco-Danoise for LTC care. More information is available at: https://www.fnadepa.com/wp-content/uploads/2024/02/LIVRET-REGARDS-CROISES-ENTRE-LA-FRANCE-ET-LE-DANEMARK-Challenge-2023.pdf

modification of affective states. The results showed participants in the ART group reporting significantly better well-being than participants in the control group at post- and follow-up assessments.

Grip on challenging behaviour (GRIP) consists of a care programme designed to manage challenging behaviour in dementia special care units. The programme is structured into four sequential steps: detection, analysis, treatment and evaluation. Training sessions are a core component where staff are educated on how to detect and reflect on signs of challenging behaviour using structured forms. When challenging behaviour is identified, care staff initiate the analysis phase by completing an analysis form with one or more co-workers. The form includes questions to reflect on the behaviour and the situation in which it occurred. Following the analysis of the event, a multidisciplinary team meeting is held to agree on the treatment. Finally, the evaluation process takes place, guided by a flowchart of possible treatment outcomes and interventions. An analysis by Zwijsen et al. (2015) of the impact of the intervention in Dutch dementia care units (N = 645) showed mixed outcomes for participants, with significant improvements in job satisfaction without increasing job demands. However, no significant changes in emotional exhaustion, personal accomplishment or depersonalisation were found.

The **educating nursing staff effectively (TENSE)** programme is another intervention designed for nursing staff working in dementia special care units. The TENSE programme combines participation in training courses with a subsequent follow-up session to promote sustained implementation in the long term. Bielderman et al. (2021) examined the effects of the intervention among Dutch dementia care professionals. They found substantial learning improvements, particularly in the identification and understanding of residents' behaviours, while also becoming more aware of the influence of their own actions on residents. Training contributed to enhanced teamwork and staff engagement in collaborative care planning, but no significant effects were found on experienced stress and job satisfaction.

The following examples present similar interventions for managing residents' challenging behaviours through psychological and behavioural approaches, including emotional intelligence development (Box 33), positive psychology programmes (Box 34), group-based acceptance and commitment therapy (Box 35) and more holistic methods aimed at creating supportive organisational environments (Box 36).

Box 33: Emotional intelligence and coping styles (Spain)

This intervention tested how training on emotional intelligence and coping styles impacted nursing staff's mental health and coping strategies. It consisted of a 16-hour training programme delivered over four 4-hour weekly sessions for 92 geriatric nurses and certified nursing assistants in residential care homes. The programme comprised 1 hour of theoretical content per session, 2 hours of group work (including role playing and emotional exploration), 1 hour of case-based discussion, techniques for emotional perception and expression, and coping strategies. Participants completed validated tests pre-intervention, post-intervention and at one-year follow-up. The study did not include healthcare assistants or certified nursing assistants. The intervention showed significant and sustained improvements in emotional intelligence and coping strategies, as most participants reported an improved ability to handle difficult situations and express emotions appropriately (Sarabia-Cobo et al., 2017).

Box 34: Online positive psychology intervention for nursing home staff (Netherlands)

An eight-week online positive psychology programme was delivered to nursing home staff in four Dutch facilities involving psycho-education and practical exercises, with the aim of enhancing well-being, job satisfaction and work engagement. Six key topics of well-being (positive emotions, discovering and using strengths, optimism, self-compassion, resilience and positive relations) were explored. Staff completed modules individually at home, supported by a gamified platform, and they received small rewards (such as badges and progression keys). Participation was mandatory and counted towards paid work hours and professional accreditation. Effectiveness was measured through a cluster-randomised controlled trial with baseline and post-intervention assessments.

This is a very innovative intervention that has been highlighted in recent research reviews. It was found to have limited effects on well-being and engagement but small positive effects on job

satisfaction, partly because satisfaction declined in the control group. Although staff valued some modules (on positive emotions and strengths), they found the workload (text and exercises) excessive (Kloos et al., 2019).

Box 35: Group-based acceptance and commitment therapy for nurses and nurse aides in residential care settings (USA)

This intervention tested the effectiveness of the acceptance and commitment therapy (ACT) approach for stress, burnout, physical injuries and abuse of nursing staff in residential care facilities. The intervention aimed to address these issues by providing training on mindfulness and skills. It consisted of a two-session group-based ACT training programme (each session was 2.5 hours long and spaced one week apart). Core topics included training in acceptance and mindfulness to change how participants react to stress. The training also focused on 'values clarification', where participants explored their life's purpose and how to manifest it in daily work, and made explicit commitments to change work behaviour that interfered with these values. Specific workplace stressors were addressed using metaphors and exercises developed in focus groups with nurses and aides.

Participants in the ACT group reported a significant reduction in mental health symptoms compared to the control group (better sleep quality, reduced strain, improved psychological well-being and feelings of personal accomplishment). Another positive outcome was a decrease in the number of days of absence due to injuries (O'Brien et al., 2019).

Box 36: Holistic approach to dealing with challenging behaviours (Malta)

This initiative was implemented by Agenzija Sapport, Malta's National Agency that provides services and support to persons with disabilities. Staff at the agency frequently faced challenging behaviour from service users, resulting in injuries and trauma among workers. To tackle this issue, the agency researched best practices and selected the non-abusive psychological and physical intervention (NAPPI) training model, which emphasises awareness and psychological interventions. The main objectives were to implement best practices for both staff and service users, reduce incidents and potential injuries, and adopt a proactive approach to managing concerning behaviours. The agency trained several personnel as NAPPI trainers, who then began instructing all staff working directly with service users. The training focuses on a proactive approach, teaching staff to identify triggers and behaviours before they escalate, thereby reducing incidents. It also includes a self-protection component for unavoidable situations. A support system was established where, following an incident, a special team meets with the employee. If an injury occurs, human resources, a trainer and a team leader discuss the event to support the employee and plan interventions to prevent future incidents. Psychological help is also offered to traumatised workers. This has led to improved communication between teams, better support for personnel and a system for prioritising interventions. A key output of the intervention was a notable decrease in injuries resulting from challenging behaviours. Reported injuries dropped from 39 in 2020 and 42 in 2021 to 29 in 2022 and 31 in 2023 (Federation of European Social Employers & European Federation of Public Service Unions, 2024).

4.3 Interventions tackling MSK risks and MSDs in the workplace

Work-related MSDs are a significant challenge for residential care workers. Studies highlight the high prevalence of MSDs in this group of workers compared to similar occupations in the healthcare and home care subsectors. These health issues often arise due to exposure to highly demanding physical tasks, notably the frequency of manual handling and transferring of patients, which can lead to pain, injury, sickness absence and disability. Research evidence suggests that effective prevention strategies require comprehensive organisational and individual approaches. The most significant reduction in the prevalence of MSDs is observed when the adoption of assistive equipment is combined with staff training, implementation protocols and follow-up mechanisms ensuring workers' adherence to specific

policies and procedures on patient handling (Gideon Asuquo, Tighe & Bradshaw, 2021; Sousa et al., 2023).

4.3.1 Organisational strategies for MSK risks

A notable trend in preventive strategies addressing MSK risks in residential care settings is the use of assistive handling devices. These include floor lifts or mechanical lifts, ceiling lifts or overhead lifts, slide boards, and fast rising electric beds (Gideon Asuquo, Tighe & Bradshaw, 2021). Ceiling lifts have emerged as a particularly effective intervention in reducing physical exertion among residential care workers and enabling safe patient transfers between bed, wheelchair or toilet. By minimising manual lifting, they show immediate effects in reducing risk exposures and work-related injuries. Their ease of use and ready availability make them preferable to floor lifts in decreasing spine loads and other biomechanical outcomes (Fray & Davis, 2024). The use of ceiling lifts, combined with staff adherence to safe patient handling practices or policies mandating the compulsory use of assistive equipment for handling residents, along with implementation protocols for equipment use and maintenance, significantly contributes to the reduction of MSDs. In addition, research suggests that financial investment in assistive equipment is cost-effective, with some studies showing savings from compensation claims following its adoption (Gideon Asuquo, Tighe & Bradshaw, 2021; Box 11).

- **Integration of preventive strategies in work environment design**

The integration of preventive strategies and OSH standards in work environments represents a fundamental shift from reactive interventions to proactive risk mitigation, embedded throughout the planning, construction or renovation of care facilities (EU-OSHA, 2025f). This strategy requires participatory approaches involving management, workers and their representatives in the design and the identification of potential solutions, alongside architects and OSH prevention specialists. The engagement of all relevant stakeholders fosters a culture of prevention that contributes to the reduction in MSDs and enhanced care quality. Sector-specific guidelines provide frameworks for ensuring that assistive equipment and space organisation meet safety standards, minimising awkward postures and repetitive movements, saving time and optimising work organisation practices (Box 37).

Box 37: Integration of OSH risk prevention strategies in the construction and renovation of nursing homes (France)

French nursing homes face substantial OSH issues, with MSDs being the leading cause of work-related injuries and sickness absence among residential care workers. These issues arise primarily from manual handling of dependent residents, poor ergonomic conditions and facilities designed without consideration of workers' safety. To address these challenges, the French National Research and Safety Institute (INRS) developed comprehensive guidelines for integrating occupational risk prevention from the initial planning stages of construction and renovation projects. Examples of interventions presented in this case study focus on three critical areas: the improvement of movement and logistics in establishments; the design of bedrooms and bathrooms to accommodate mobility aids and lifting equipment while reducing workers' postural strain when they assist residents; and the integration of assistive equipment devices, such as ceiling hoists that minimise manual handling efforts.[17]

- **Technical and ergonomic interventions**

The most prevalent type of organisational intervention to address MSDs in the workplace is the adoption of technical solutions as part of broader and more comprehensive safe patient handling and mobility (SPHM) programmes. These programmes focus on equipping staff with strategies for safe patient mobilisation, including establishing safe lifting protocols and providing training and resources, in addition to ensuring the availability and adequacy of lifting equipment and other assistive devices. Research has found that these programmes have positive impacts on the reduction of work-related injuries and associated costs (EU-OSHA, 2025f).

[17] For more information see case study *Preventing risks in nursing homes through safer design and renovation*, available at https://osha.europa.eu/en/publications/preventing-risks-nursing-homes-through-safer-design-and-renovation

Various examples illustrate the general preference for ceiling lifts as assistive equipment of choice in residential care settings (Boxes 38, 39 and 40).

Box 38: Benefits of ceiling lift intervention to reduce workers' injuries (Canada)

This initiative involved introducing a resident lifting system project to reduce the risk of MSK injuries in an LTC facility in Canada. A longitudinal case study was carried out to evaluate the effects of this intervention over a six-year span (1995-2000). The facility was equipped with mechanical lifting and repositioning devices, including full-body lifts for residents unable to bear weight (such as bed-to-chair, chair-to-toilet and floor lifts, as well as transfer for weighing), stand-up lifts for residents who could partially bear weight (for activities like toileting, bed-to-chair transfers, walking and changing incontinence briefs), and friction-reducing sheets for repositioning in bed. Additionally, a written 'zero-lift policy' was introduced, stipulating that residents should not be manually lifted, with charge nurses and administrators responsible for its enforcement. Comprehensive training was provided, consisting of initial knowledge-based training followed by one-on-one or small-group sessions with real residents who have various disabilities, and annual training for nursing staff. MSK injuries related to resident handling were monitored using three data systems (workers' compensation claims, Canadian Centre for Occupational Health and Safety (CCOHS) logs and initial injury reports) and compared over 36 months before and after the intervention.

The measure led to a significant, sustained decrease in MSK injuries related to resident handling and in the number of lost working days due to patient handling injuries. The programme also proved to be a cost-effective measure, with a quick return of the initial investment after three years (Chhokar et al., 2005).

Box 39: Best practices in an MSK injury prevention programme in nursing homes (Canada)

This intervention consisted of the installation of 65 overhead ceiling lifts servicing 125 beds and 3 bathtubs in an extended care facility in British Columbia. In addition, a no-unsafe manual lift policy was introduced and comprehensive training on the use of ceiling lifts for patient handling was given to all nursing staff and care aides. The study evaluated injury trends 3 years before and 3 years after the intervention (excluding a transition period during installation and training), and focused on the number of MSK injury claims, compensation costs and days lost.

The measures produced a sustained and statistically significant reduction in injuries related to lifting and transferring residents. Days lost and claims costs decreased, reversing an upward trend. The intervention showed a strong economic impact, with a payback period far shorter than the estimated 12-year lifespan of the equipment. This demonstrates that engineering controls (ceiling lifts) can outperform manual or floor-based lifting approaches, especially when embedded in organisational policy and training (Collins et al., 2024).

Box 40: Transfer rails to secure and facilitate patient mobility (France)

The Colisée group is a leading company in care for older people with more than 21,000 workers in the EU. To address MSK risks involved in lifting and transferring patients, the company has implemented ceiling hoist systems with hammocks, which allow safe and effortless lifting and movement of dependent patients as part of the group's OSH policy in nursing homes in France. Manual handling of patients was identified as the main cause of increased frequency of workers' accidents, particularly in France. More than 1,000 workers were trained across 56 establishments equipped with these devices, resulting in a threefold reduction in workplace accidents.[18]

[18] Alliance Franco-Danoise pour le Grand Age et l'Autonomie - La prévention en EHPAD. Regards croisés entre la France et le Danemark. More information is available at: https://frankrig.um.dk/fr/-/media/country-sites/frankrig-fr/le-conseil-lexportation/publications-24/livre-blanc-grand-age-2024-v8-1-.ashx

Beyond the transfer of patients, their repositioning and turning to side-lying positions are challenging tasks that are commonly associated with risks of work-related MSDs (see also Box 10). Research has identified several types of assistive devices for these tasks with varying degrees of effectiveness (Ede et al., 2025). For instance, the use of slide sheets or friction-reducing sheets contributes to reduced physical strain during patient handling compared to traditional cotton sheets (Fray & Davis, 2024). However, repositioning with slide sheets is also considered challenging, especially when inserting them underneath immobile patients, which affects their optimal use in care settings due to time pressures. This limitation is offset by the use of in-bed systems, which remain under the patient and assist with repositioning work. Alternatively, automated bedsheet systems have the potential to replace manual repositioning and can contribute to the reduction of perceived MSD symptoms (Box 41).

Box 41: Technical aids to improve residential care workers' well-being at Klarahus nursing home (Denmark)

In Copenhagen, the Klarahus nursing home initiated a project aimed at improving both the working environment and the residents' quality of life by incorporating technical aids. First, a consultant specialising in technical aids observed staff around the clock to identify which devices would most effectively enhance the work setting. The technologies identified as most crucial were those for transferring and rotating, leading to a trial implementation of automated bedsheets (Vendlet) in one unit. A key aspect of the intervention was a skills development programme for all workers, which included a training room equipped with the new technologies, allowing staff to practice and familiarise themselves with the devices. In addition to transfer aids, the nursing home introduced specialised beds and sensory technologies for residents with dementia, such as virtual reality glasses, music cushions and weighted blankets. The intervention also focused on organisational culture by establishing a psychosocial risks unit and increasing employee participation in internal decision-making. A weekly meeting called 'The Klara neighbourhood' was established, where anyone could propose agenda items, enhancing team cohesion. The implementation of these innovations led to positive outcomes in terms of reduced absenteeism (especially for MSDs) and a low staff turnover rate with no current job vacancies. The use of these technologies also freed up staff time for other tasks. Staff now feel confident in using the new technologies, which have improved their sense of competence.[19]

4.3.2. Individual strategies for MSK risks

Individual prevention approaches focus on providing workers with practical, ergonomic knowledge and skills to prevent MSDs, with training and education programmes targeting direct care workers. Research points to training methodologies with varying levels of effectiveness, including training on the use of assistive devices, ergonomics and proper lifting techniques, and the promotion of physical exercise (Gideon Asuquo, Tighe & Bradshaw, 2021; Sousa et al., 2023).

Training on the proper use of patient-handling assistive equipment is one of the most frequent interventions, with studies showing positive impacts on reducing work-related MSDs (Box 39). Ilwakiri et al. (2017) found that re-education on proper use of assistive equipment contributed to preventing low back pain among workers at nursing homes in Japan. This intervention study was motivated by the observation that many workers did not adopt proper methods when they used available assistive devices, such as hoists or sliding sheets. A committee of staff members, guided by an ergonomics expert, oversaw the initiative. Throughout the study period, the committee was responsible for training workers and monitoring their practices. The study demonstrated that continuous improvement efforts on equipment use have the potential to prevent the exacerbation of MSDs among care workers. Rasmussen et al. (2014) supported the effectiveness of a similar intervention to reduce low back pain among LTC workers in Norway. It consisted of a comprehensive 12-week programme comprising a participatory ergonomics process on prevention of physical exertion, combined with training sessions with a focus on cognitive-behavioural therapy and physical activity. The intervention included supervisor

[19] Aliance Franco-Danoise pour le Grand Age et l'Autonomia - La prévention en EHPAD. Regards croisés entre la France et le Danemark. More information is available at: https://frankrig.um.dk/fr/-/media/country-sites/frankrig-fr/le-conseil-lexportation/publications-24/livre-blanc-grand-age-2024-v8-1-.ashx

support meetings to discuss aspects of implementation. The intervention resulted in significant reductions in low back pain and its intensity compared to those who did not participate in the initiative.

Box 42: Safe resident handling programme (USA)

This study analysed the impact of a safe resident handling programme by a large US corporation across its nursing homes to mitigate disability duration and injury recurrence among direct care workers (mostly nursing staff, N = 18,571). The intervention had several components, including the use of assistive equipment, training and the establishment of protocols for equipment usage, and staffing requirements for handling tasks. The initiative resulted in a significant reduction of work-related injuries, as measured by workers' compensation claims over a six-year post-implementation period. It led to a substantial and sustainable reduction in resident-handling-related injuries due to the combination of mechanical lifting equipment with comprehensive training and protocol. Reduced recurrence led to substantial cost savings due to fewer repeated disabling injuries. The programme's effectiveness was observed among a large sample of workers over an eight-year period (Kurowski et al., 2017).

Ergonomics education is a common intervention aimed at raising awareness of risk factors and understanding biomechanical principles. Programmes typically integrate training on safe handling techniques, the use of handling devices and ergonomics training. However, the effectiveness of proper lifting techniques is often limited in real-world practice due to the variety of handling situations. This is especially true when work demands are high, leading workers to lift patients manually when they are under time pressure (Sousa et al., 2023; Denis et al., 2020).

Individual approaches have extended beyond handling techniques or posture training to include physical conditioning programmes. Research evidence suggests that implementing strength training or physical exercise interventions can contribute to reducing MSDs among workers in physically demanding jobs (Sundstrup et al., 2020). As an illustration of this approach, Otto et al. (2020) introduced a comprehensive prevention programme to reduce mental stress and MSDs in German residential care settings. The programme combined ergonomics and posture training to manage physical stress in the workplace, with fitness training that included mobility, coordination and strength training components specifically targeting the back and shoulders. Findings from a pilot study in German nursing homes showed that nurses' risky bending and awkward postures were significantly reduced following an intervention consisting of participatory ergonomics, body and posture awareness training, and physical exercises (Box 43). Increasing workers' health literacy also proved to be an effective intervention to reduce MSDs (Box 44). Other similar strategies combine training initiatives and staff support, with specific preventive strategies aimed at reducing risks associated with patient handling and workplace ergonomics (Boxes 45-49).

Box 43: Training programme to reduce stressful trunk postures among geriatric nursing staff (Germany)

An ergonomic training programme was implemented in six nursing homes to reduce stressful trunk postures among geriatric care workers. The intervention included a 2-day basic seminar on physical ergonomics and a work environment reorganisation, in which frequently used items, such as care baskets, were repositioned at ergonomic height and resident rooms were generally redesigned. Two follow-up training sessions, 8 and 12 weeks later, and telephone check-ins were also implemented. The intervention was assessed by measuring trunk posture using computer-assisted recording and long-term analysis of musculoskeletal loads (CUELA system) and a synchronised video analysis before and 6 months after the intervention. The time in pronounced inclination was reduced by 22 % to 60 %, and workers reported greater posture awareness and changes in daily practice. This practice was feasible and low-cost (Kozak, Freitag & Nienhaus, 2017).

Box 44: Effects of health literacy in nursing homes on workers' pain (Denmark)

This intervention is an organisational health literacy programme to reduce MSK pain by improving workers' individual health literacy (for example, knowledge and skills) and the organisation's capacity to support pain prevention and management. It consisted of knowledge-building courses and structured employee-supervisor dialogues. Four 3-hour courses were delivered in small groups (two for workers and two for managers). Workers' courses focused on strengthening their capacity to access and understand information about MSK pain and preventive strategies, cope with pain at work, and improve communication with supervisors/colleagues about work and health challenges. Managers' courses focused on improving their capacity to detect and understand workers' pain problems, communicate supportively and develop action plans. Structured dialogues were held every three weeks and were designed to support early identification and workplace-level solutions.

The workplace health literacy programme showed effectiveness in reducing the intensity of MSK pain. Following a 6-month intervention period, the overall mean pain intensity decreased by 7 %. The effect was more pronounced for workers with higher pain levels at the baseline (12 %). However, the intervention did not result in significant changes in sickness absence (Larsen et al., 2019).

Box 45: Actions to improve MSK health in a Spanish nursing home (Spain)

This intervention was implemented in a nursing home in Valencia (Spain) between 2019 and 2020. It primarily aimed to enhance staff's MSK health, encourage proper postural habits, train staff in safe lifting techniques and ergonomic practices, and embed prevention into the organisation's culture. Two key actions were implemented. First, the organisation provided subsidised Pilates classes at different times to accommodate work shifts. Second, a campaign to prevent MSK injuries was launched in collaboration with a mutual insurance company collaborating with the Spanish social security system. The campaign featured an information session and an analysis of health perception before and after the training. The outcomes included an improved work environment, a better perception of personal health among participants, and the maintenance of a low rate of sick leave and absenteeism (less than 2 %). Additionally, staff gained knowledge about muscle function, load mobilisation and relaxation techniques (Federation of European Social Employers & European Federation of Public Service Unions, 2024).

Box 46: The ALM approach to prevent MSK risks during patient handling and transfer (France)

The Accompagner La Mobilité (ALM) approach is an occupational health and care-quality intervention developed in France in 2012 and institutionalised from 2018 onwards across hospital, home care and LTC settings. Its main objective is to prevent MSDs and handling-related accidents among care staff while simultaneously improving care quality and preserving patient autonomy. ALM reframes patient handling as an integral component of care, centring on the step-by-step assessment of residents' movement capacities, the encouragement of spontaneous mobility, and the integration of technical aids such as sliding sheets, patient lifts, ceiling rails and adapted furniture. The case study reports that implementation involved structured training modules for different professional groups, practical sessions lasting 5 to 6 hours, and organisational changes in workspace design and equipment provision. The main outcomes highlighted include a substantial reduction in work-related accidents and absenteeism, with one hospital group reporting a tenfold decrease in lost working days over a period of less than 10 years and one institutional evaluation showing a 60 % reduction in accident-related absences. The significance of this case study lies in demonstrating how an organisational intervention can simultaneously improve staff working conditions, reduce MSD risks, and enhance resident autonomy and overall quality of care (EU-OSHA, 2025b).

Box 47: For health and social care workers free from MSDs (Spain)

This intervention consisted of a national awareness campaign implemented in Spain by the National Institute for Safety and Health at Work (INSST) in 2022, specifically targeting MSDs in residential care settings. Its main objective was to prevent MSDs associated with patient handling and transfer by promoting preventive measures, improving postural habits and encouraging safer working practices. The campaign was delivered over a 4-day dissemination period and consisted of a multimodal communication strategy, including tailored videos, posters incorporating QR codes, technical guidance documents, visual tips, step-by-step GIFs illustrating handling techniques and targeted digital dissemination through email, LinkedIn, X/Twitter, YouTube and a website. The campaign reached at least 130,000 stakeholders across these communication channels and continued to generate engagement beyond the official campaign period, suggesting the sustained relevance and utility of the materials produced. Its significance lies in explicitly linking occupational health prevention with care quality through the principle of 'take care to take better care', thereby addressing workers' physical well-being while simultaneously improving resident safety and the quality of patient-handling practices in LTC settings (EU-OSHA, 2025d).

Box 48: TutoPrév' approach prepares new hires and supports teachers (France)

The TutoPrév' programme is an OSH training intervention developed in France for the home and residential care sector and implemented at the national level. Designed for vocational schools, residential care facilities and home care settings, the programme primarily targets future workers and newly hired staff, as well as supervisors, mentors and teachers involved in training and onboarding processes. Its main objective is to strengthen risk awareness and preventive competences from the outset of professional training and employment. Three complementary tools were implemented. TutoPrév' Accueil supports the integration of newcomers through illustrated risk-identification exercises and guided onboarding activities. TutoPrév' Pédagogie provides a structured teaching resource for vocational educators based on risk-focused and work-situation-based learning approaches. TutoPrév' Interactif, a digitally supported tool launched in 2023, reinforces risk recognition and preventive decision-making through quizzes and scenario-based learning activities. Implementation outcomes indicate strong uptake, with thousands of downloads and more than 32,700 page views for the interactive version in 2024, suggesting substantial interest and wide dissemination across training and care settings (EU-OSHA, 2025e).

Box 49: Back School – a Spanish initiative to protect back health among workers in residential care

Back School is an OSH intervention implemented by Gestión de Servicios Residenciales (GSR S Coop), a residential care provider that operates more than 30 LTC facilities and employs over 1,400 workers. The intervention aimed to prevent back injuries caused by physical overload among residential care staff, particularly nursing assistants and geriatric caregivers, whose work frequently involves resident handling and repetitive physical tasks. Implemented between 2009 and 2015, the programme consisted of standardised sessions delivered by physiotherapists covering spinal anatomy, risk awareness, safe lifting and postural techniques, stretching routines, and core and lower-body strengthening exercises. The intervention was complemented by workplace posters and additional training in the use of assistive equipment such as patient lifts and articulated beds. Evaluation was based on a survey conducted in 2017 and the monitoring of accident incidence rates. Findings indicate that 72 % of workers perceived the programme as beneficial, around 30 % reported improved flexibility and reduced back pain, and the initiative strengthened prevention awareness and the organisational safety culture. However, its effect on reducing sickness-related accident rates was only moderate. Notably, the intervention was considered a low-cost approach to improving workers' MSK health in LTC settings (EU-OSHA, 2025c).

4.4 Initiatives addressing physical, biological and chemical risks

Very few intervention studies have directly targeted preventive actions against physical, biological and chemical risk exposures. Instead, most available interventions focus on modifying specific worker behaviours or implementing organisational policies that affect workers only indirectly. Most of the recent research in this area has focused on prevention and control strategies in the context of the Covid-19 pandemic (see Box 50; ECDC, n.d.).

Sandbekken et al. (2024) analysed an example of 'multimodal intervention' targeting biological risk exposures. The aim was to improve hand hygiene adherence through behaviour change among healthcare workers in nine residential settings in Norway over an 18-month period. It combined educational videos, training sessions, visual reminders (such as posters) and feedback mechanisms (for example, UV-light boxes to demonstrate inadequate hand disinfection), among other actions. The results showed that hand hygiene adherence increased, although no significant association was found between improved adherence and infection-related outcomes (infections, hospitalisations or deaths).

Similarly, policy-level interventions may shape worker behaviour without necessarily improving underlying working conditions. For instance, Okpani et al. (2024) evaluated the implementation of a mandatory Covid-19 vaccination policy targeting healthcare workers in a large Canadian health region (N = 26,119) using longitudinal data on vaccination status, SARS-CoV-2 test results, and sociodemographic and occupational characteristics. The results show that the policy was associated with a gradual decline in SARS-CoV-2 test positivity over time. However, the authors acknowledged that coercive vaccination policies may have unintended organisational consequences, including reduced trust, increased workplace tensions and potential staffing shortages (Okpani et al., 2024).

A different approach is illustrated by the group-randomised controlled trial conducted by Hurtado et al. (2016), which explicitly sought to modify organisational conditions related to work-family interference. A group-randomised controlled trial conducted across 30 nursing homes in the United States (N = 1,524) examined whether improving work-life balance through organisational changes could reduce smoking behaviour. The four-month intervention included supervisor training in family-supportive behaviours, increased worker autonomy and schedule flexibility, and more participatory organisational practices. Results showed a modest but statistically significant reduction in cigarette consumption among smokers (-7 cigarettes per week on average), with stronger effects observed among certified nursing assistants and US-born white workers (up to -12 cigarettes per week). However, the intervention did not significantly improve its primary targets (work-family conflict, schedule control or family-supportive supervisory behaviours). Moreover, these variables did not mediate the observed reduction in smoking. The authors therefore suggest that the effects may operate through other unmeasured psychosocial pathways related to the work-family interface (Hurtado et al., 2016).

Box 50: Effective sanitary measures to avoid Covid-19 infections and set standards for the future care facility in Młodzieszyn (Poland)

The intervention consisted of the timely and effective implementation of appropriate sanitary standards to prevent the spread of the Covid-19 virus among residents and staff, an issue that had a major impact on LTC facilities, many of which were largely unprepared for the pandemic. In this context, the care facility in Młodzieszyn (housing around 100 inhabitants with physical disabilities or illnesses, including bedridden residents) acted in accordance with governmental guidance introduced overnight. Measures included the separation and isolation of infected residents, prohibition of visits, the introduction of quarantine procedures, enhanced disinfection standards, the use of personal protective equipment (PPE), and access to medical care and relevant equipment in case of severe infections. Unlike many similar facilities, the centre was well supplied with PPE. Mandatory Covid-19 testing for residents was also introduced, and restrictions were placed on new admissions to reduce the risk of infection.

As a result, the facility recorded only a limited number of severe Covid-19 cases among residents, with only a few deaths, all of which involved complications related to pre-existing diseases. No cases of acute Covid-19 occurred among the centre's staff. The experience of the pandemic strengthened

staff preparedness and their capacity to respond effectively to future epidemic emergencies. Likewise, ensuring adequate equipment and infrastructure for such conditions has become a key priority, thereby enhancing the facility's resilience to emergency situations.[20]

[20] Interview with company representative. More information is available at: https://domyopieki.pl/prezentacja/dom-pomocy-spolecznej-w-mlodzieszynie,2041644.html

5. Conclusions and policy pointers

Residential care work involves the provision of health and personal care services in facilities other than hospitals, with varying levels of support tailored to population groups with specific needs. The sector encompasses different types of establishments ranging from nursing homes for older people, residential care for people with mental disability or disorders, and residential services for dependent or disabled people. Despite a growing emphasis on deinstitutionalisation in the provision of LTC services over the last decade, residential care remains the main formal LTC setting in many Member States, although with large differences across countries. This research report has examined the main OSH risk factors and health outcomes faced by residential care workers, with a view to identifying examples of good practices for risk prevention and management in the sector.

The residential care sector in the EU faces structural challenges that impact the working conditions of its more than 4 million workers. The sector has a chronic understaffing crisis stemming from a combination of low wages, highly demanding work environments and often inadequate public funding, which makes it increasingly unattractive. Together with these challenges is the trend towards privatisation and marketisation of LTC services. This trend has been associated with lower staff-to-resident ratios and reduced investment in OSH measures and preventive equipment compared with public alternatives. Research and international institutions have raised concerns about the high prevalence of work-related health issues impacting the sustainability of the LTC workforce. European institutions and social partners have acknowledged these challenges and have advocated for the need to promote job quality and OSH standards as a means for tackling staff shortages and improving care quality.

Results from EWCS 2024 highlight that residential care stands out in the HeSCare sector – the sector where workers perceive the most substantial negative impact of work on their safety and health. Compared with other LTC settings, residential care work involves assisting patients with more complex and chronic conditions than those receiving care at home, including physical dependencies, cognitive impairments and behavioural challenges, resulting in increased physical and emotional strain. Co-exposure to both PSRs and MSK risk factors results in a high prevalence of work-related accidents, presenteeism and absenteeism, highlighted in different sources.

MSDs and accidents at work are the most common OSH outcomes in residential care work. Research evidence shows a higher prevalence of MSDs in residential care settings than in other HeSCare subsectors. This is mostly attributable to the higher frequency and intensity of manual patient handling and repositioning of residents with limited support of technical aids. Studies using biomechanical models reveal that patient lifting and transfer frequently exceed recommended safe limits, potentially leading to overexertion and risks of injuries. Evidence presented in this study indicates that residential care workers experience higher rates of work-related accidents than workers in other sectors and occupations. These accidents are mostly linked to manual handling of residents. They are also the result of inadequate physical workspace conditions and a lack of, or underutilisation of, assistive equipment.

Presenteeism and absenteeism are also highly prevalent issues in residential care settings. Working with pain is a widespread reality that has been highlighted in previous studies in the HeSCare sector, with research pointing to increased risks of future disability pensions. The present study has drawn attention to emerging OSH risks stemming from residential workers' use of psychotropic drugs as a coping strategy to manage pain caused by high physical demands and psychosocial strain. Workers typically begin with painkillers and anti-inflammatory drugs to alleviate their MSK pain, but as pain persists without addressing underlying work conditions, they escalate to anxiolytics to manage anxiety and depression (Box 15).

Amid the ongoing staff recruitment and retention strategy, there is a growing awareness and recognition of the risks stemming from the psychosocial work environment in residential care. Exposure to the highly physical and emotionally demanding nature of care work is further compounded by organisational factors, such as understaffing and work organisation practices.

Understaffing and time pressure are consistently identified as the primary risk factors contributing to a range of mental health issues and MSDs in the residential care sector. The underlying causes include operational requirements for 24/7 service provision, complex care plans for increasingly frail residents,

and nursing staff's growing administrative and supervisory responsibilities. Understaffing leads workers to take on additional workload to prevent negative impacts on the resident population, requiring them to work longer hours or at a faster pace. Residential care workers often experience an inability to complete care tasks due to time constraints or insufficient resources, which can lead to prioritising some residents' needs over others. This results in compromised care quality and increased psychological strain on workers. Moral distress, arising from conflicts between professional standards and practical realities, is a prevalent issue in the sector. Excessive workloads are identified as major drivers contributing to emotional exhaustion and burnout, directly impacting workers' satisfaction with the job and turnover intentions. The consequences of understaffing and time pressures on residential care workers' OSH extend beyond mental health issues, since workers under time constraints tend to avoid using assistive equipment and engage in unassisted and risky manoeuvres, further exacerbating the occurrence of MSDs.

Beyond high quantitative demands, residential care workers face substantial emotional demands resulting from interactions with people who are suffering or have complex conditions, notably residents with dementia or cognitive impairments. These challenges are intensified by exposure to challenging behaviours and aggressions by residents or their relatives. Significantly, survey data from ESENER 2024 shows that dealing with difficult clients or patients is the most prevalent risk reported by establishments in the HeSCare sector compared to the EU-27 average. However, the emotional burden of care work stems not only from residents' clinical conditions, but also from organisational factors. Inadequate staffing and resources, and weak managerial support increase stress levels that may end in reciprocal aggression or mistreatment between staff and residents. Challenging behaviours, including aggression and sexual harassment from residents, are prevalent and often normalised due to insufficient organisational policies and support systems, shifting the responsibility to workers. However, higher levels of emotional exhaustion and depersonalisation are associated with workers' increased potential to engage in abusive or neglectful responses towards residents. Addressing these challenges requires organisational strategies to improve working conditions and increase social support (Box 36).

Working time patterns in the residential care sector are characterised by varying shift lengths, rotation, split shifts and irregular hours, such as nights and weekends, arranged to meet 24/7 service provision requirements. While the OSH risks of working extended shifts or night work are well established in research, evidence gathered in this study shows mixed results regarding compressed working weeks. Some studies indicate that long shifts (typically 12-14 hours with extended rest periods of 3-8 days) can reduce stress through better workflow and they provide clearer separation between work and non-work domains. Crucially, the potential benefits of long shifts are mediated by organisational factors, such as staffing adequacy and managerial support, and workers' ability to influence schedule planning.

Low autonomy on the job in combination with poor social support from colleagues and managers are critical factors of the psychosocial work environment of residential care workers, and intensify burnout, emotional exhaustion and intentions to leave the job. Care assistants, who are more involved in providing direct care to residents, frequently cannot access relevant information and are excluded from decision-making processes due to time constraints or poor managerial support. Hierarchical structures also hinder the implementation and development of innovative person-centred care approaches that require meaningful workers' participation to adapt to residents' needs and preferences. Conversely, a supportive work environment is a protective factor against high workloads. It contributes to improving workers' sense of competence and recognition in organisations, thereby enhancing their satisfaction with the job and willingness to stay.

The literature review conducted in this study identified significant gaps in the coverage of OSH risk exposures in the sector, specifically to biological risks, despite evidence on the prevalence of infection risks in LTC facilities. This source of OSH risks remains largely unexplored beyond the context of the Covid-19 pandemic and is mostly focused on prevention and control measures for patients. Similarly, physical risks, including slips, trips and falls, and chemical risk exposure stemming from the regular use of cleaning agents and medical products have received little attention in EU research, although these are defining characteristics of residential care work.

Ensuring adequate staffing levels emerges as a fundamental OSH preventive strategy in the residential care sector. It is also crucial for maintaining and improving the coverage and quality of LTC provision in ageing societies. Improved working conditions and professionalisation are pivotal in addressing staff

shortages in the sector. This is because low wages, high job demands, challenging work environments and a lack of social recognition and career development opportunities act as barriers to recruitment and retention in the sector. Examples of national initiatives reported in the study, such as Sweden's state subsidies, Germany's emergency programme for nursing and care for older people, or Finnish staff-ratio legislation (Boxes 1, 3, 4 and 5) show that targeted public investments and staffing plans contribute to addressing critical staff and skills shortages. These measures enhance organisational resources for improving working conditions, promoting OSH, supporting work-life balance and establishing clear professional standards, thereby contributing to workers' professional identity and job satisfaction.

Research on preventive interventions in residential care establishments reveals a relatively under-researched field, with limited evidence of its effectiveness or impact. Most strategies emphasise individual and behavioural approaches rather than organisational interventions. According to ESENER 2024 survey data, the most frequent preventive intervention in residential care establishments is the provision of ergonomic and assistive equipment for lifting and mobilising dependent residents, particularly ceiling lifts, which are presented as highly effective in reducing workers' overexertion and injuries (Boxes 38, 39, 40 and 41). Evidence suggests that investing in ergonomics and assistive device interventions can be a cost-effective measure, as they deliver substantial savings from reduced sickness absences (Boxes 35 and 11). However, their implementation faces challenges that may undermine effectiveness. Many residential care establishments were not originally designed to accommodate ceiling lifts or adjustable beds, or their configurations might not be adapted to the needs of the residents and workers (Box 37). Furthermore, workers may not properly use or may underuse available assistive devices due to time constraints or views on their necessity for less demanding tasks, such as repositioning patients, even though these tasks entail injury risks (Box 10). These issues highlight the importance of integrating preventive strategies from the outset in the planning and renovation of residential care facilities. It is also crucial to embed technical solutions in broader organisational zero-lift or safety policies for patient handling, and to provide workers with practical ergonomic knowledge and skills through training in the proper use of assistive equipment and ergonomics.

Other relevant strategies at the workplace level identified in this study include changing how care work is organised and restructuring care relationships within residential care establishments, creating conditions in which workers' OSH and well-being, as well as improved care quality, reinforce each other. Innovative living arrangements, such as small-scale, homelike care settings, have demonstrated benefits for workers' job autonomy and social support compared to traditional larger institutions (Box 22). PCC models that focus on individualised care delivery and residents' autonomy contribute to improving workers' involvement in decision-making processes and improved relationships with the residents (Boxes 23 and 24).

Changes in work organisation practices that address working time schedules and create more supportive work environments are critical interventions. They generate conditions that enable workers to remain in their job while preserving their physical and mental health. Examples of this type of intervention include restructuring working hours into longer shifts with better rest periods (Boxes 29 and 30), implementing tailor-made work schedules that give workers flexibility to adapt their working hours (Box 31), and the provision of care services or resources to improve workers' work-life balance (Box 32). The organisation of work in self-managed and multidisciplinary teams is an innovative approach to promoting workers' involvement in decision-making processes and social support (Boxes 27 and 28). Collective bargaining and social dialogue can also play a role in the promotion of these changes in work organisation (Box 25).

Policy pointers

- Ensure adequate staffing levels and improve working conditions to enhance OSH and the sustainability of the residential care workforce in the context of ageing societies.
    - Establish policy frameworks or guidance that set the adequate staffing ratios to be applied in activities such as the licensing of residential care facilities. These frameworks should acknowledge that the effectiveness of staffing levels in care quality is contingent on an adequate skill mix, working conditions and organisational support.
    - Establish and enforce adequate staffing ratios tailored to residents' dependency profiles, ensuring sufficient direct care workers per shift to meet residents' clinical needs.

  - Increase public investment to improve wages and overall working conditions in the residential care sector, addressing financial barriers that contribute to staff shortages and high turnover.
- Promote workers' professionalisation by developing clear career pathways, training programmes and certification schemes to raise skill levels and professional recognition, improving job satisfaction and care quality.
- Promote collective bargaining coverage and encourage both employers and workers to engage in collective representation mechanisms at the workplace level, with the aim of jointly negotiating and improving working conditions.
- Develop comprehensive safe resident handling policies in the workplace, ensuring workers' involvement.
  - Embed safety handling practices in organisational culture and care protocols that mandate the use of assistive equipment for all patient handling tasks.
  - Ensure availability and adequacy of technical aids for patient handling and repositioning, such as ceiling lifts or automated bedsheets, ensuring their proper maintenance and consistent use by staff and addressing barriers such as time constraints or workers' wrong perceptions about their necessity.
  - Provide training on the correct use of assistive devices, ergonomics and safe patient handling techniques.
  - Integrate safe patient strategies in the design and renovation of residential care facilities to ease the use of assistive equipment and minimise physical strain and overexertion.
  - Promote workers' involvement and participation in the design, implementation and evaluation of safe resident handling policies, to ensure their acceptance and effectiveness.
  - Integrate safe handling policies with broader interventions on work organisation practices (including scheduling and staffing) to enhance their impact and effectiveness on workers' well-being and care quality.
- Build supportive work environments through the promotion of workers' autonomy and meaningful involvement in relevant decisions.
  - Promote job autonomy by enabling residential care workers to have meaningful control over their tasks, scheduling and care decisions.
  - Implement self-managed multidisciplinary teams where workers share responsibilities and decision-making, reducing hierarchical barriers.
  - Promote regular, structured team meetings and exchanges to empower collective problem-solving between workers and managerial staff, recognising its role in mitigating high workloads and burnout risks.
  - Develop organisational policies that acknowledge and support the relational nature of care work, ensuring workers feel recognised and valued, contributing both to workers' satisfaction with the job and the quality of care.
- Implement flexible scheduling and work-life balance initiatives enabling workers to tailor their work hours to individual personal and family needs, reducing stress and absenteeism.
  - Integrate scheduling initiatives with broader workforce planning, by adjusting task durations according to residents' needs and allowing more flexible reallocation of tasks throughout the day.
  - Facilitate worker participation in scheduling, minimising managerial discretion while ensuring alignment with workforce needs and operational requirements.
  - Provide resources such as on-site childcare services or partnerships with local childcare providers to alleviate work-family conflicts for shift workers in residential care settings.

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Appendix — Statistical analysis

The analysis was based on data from the 2024 European Working Conditions Survey (EWCS-2024). It focused on workers employed in the core residential care occupations, corresponding to ISCO major groups 2 (professionals), 3 (technicians and associate professionals) and 5 (services and sales workers). These groups cover the most relevant occupations in the residential care sector: 2221 (Nursing professionals), 3221 (Nursing associate professionals) and 5321 (Healthcare assistants). Workers in ISCO groups 1 (managers), 4 (clerical staff) and 9 (elementary occupations) were excluded from the analysis.

The analytical strategy consisted of two complementary stages. First, a descriptive analysis was conducted to characterise working conditions in the residential care sector. The analysis was based on the framework developed by Eurofound to assess job quality, which groups working conditions into seven dimensions: physical environment, social environment, working time quality, work intensity, skills and discretion, prospects, and earnings. The most relevant indicators within each dimension were selected to provide an overview of the quality of work and potential occupational safety and health (OSH) risks in the sector.

Second, a multivariable analysis was carried out to examine the factors associated with work-related health problems. The dependent variable was derived from the EWCS question on the impact of work on health, distinguishing workers who reported that their work affected their health negatively from all other respondents.

The multivariable analysis was based on logistic regression models. In a first step, a model was estimated for the overall economy to assess whether residential care workers were more likely to report that their work affected their health negatively than workers in other sectors of the economy. The model distinguished between the three sectors included in the HeSCare sector (residential care, healthcare and social work) and as a reference category all remaining sectors. Control variables included country, establishment size, occupation, employment status, working time arrangement, seniority, supervisory role, sex, age, parental status and educational attainment.

In a second step, the analysis focused exclusively on residential care workers. A baseline logistic regression model was estimated including establishment size, occupation, employment status, working time arrangement, job tenure, supervisory responsibilities, sex and age. Country effects were excluded from these models due to sample size limitations, while parental status and educational attainment were excluded because they were not statistically significant in the previous analysis.

To examine the relationship between working conditions and the likelihood of reporting that work negatively affects health, each model extended the baseline specification by incorporating the most relevant indicators of each job quality dimension. Due to the limited sample size of residential care workers, it was not possible to estimate a single model including indicators from all seven dimensions simultaneously without risking model over-specification and unstable estimates. Therefore, separate models were estimated for each dimension. This approach made it possible to assess the contribution of different aspects of job quality to the likelihood of reporting negative health impacts from work while maintaining the robustness of the statistical analysis.

The following sections present the results of the two stages of the analysis: the descriptive assessment of working conditions in the residential care sector and the multivariable logistic regression models examining the factors associated with work-related health problems.

Descriptive analysis

Table A1: Physical work environment indicators among residential care workers (ISCO 2, 3 and 5)

Variable	Category	%
Contact with chemical products or substances	>= 75% of the time	19%
	>=25% and <75% of the time	14%
	<25% of the time	67%
Contact with materials which can be infectious	>= 75% of the time	36%
	>=25% and <75% of the time	20%
	<25% of the time	43%
Tiring or painful positions	>= 75% of the time	35%
	>=25% and <75% of the time	27%
	<25% of the time	39%
Lifting or moving people	>= 75% of the time	48%
	>=25% and <75% of the time	25%
	<25% of the time	28%
Carrying or moving heavy loads	>= 75% of the time	21%
	>=25% and <75% of the time	23%
	<25% of the time	56%
Repetitive hand or arm movements	>= 75% of the time	40%
	>=25% and <75% of the time	20%
	<25% of the time	41%

***Source**: Authors' calculations based on EWCS-2024 microdata.*

Table A2: Social work environment indicators among residential care workers (ISCO 2, 3 and 5)

Variable	Category	%
Verbal abuse	Yes	23%
	No	77%
Physical violence	Yes	16%
	No	84%
Sexual harassment	Yes	6%
	No	94%
Support of colleagues	Always or most of the time	80%
	Sometimes	17%
	Rarely or never	4%
Support of manager	Always or most of the time	57%
	Sometimes	26%
	Rarely or never	17%

***Source**: Authors' calculations based on EWCS-2024 microdata.*

Table A3: Working time quality indicators among residential care workers (ISCO 2, 3 and 5)

Variable	Category	%
No recovery period	Yes	29%
	No	71%
Long working days	Yes	30%
	No	70%
Shift work	No shifts	45%
	Alternating / rotating shifts	28%
	Permanent / other shifts	27%
Take a break	Always or most of the time	29%
	Sometimes	23%
	Rarely or never	47%
Take an hour or two off	Easy	51%
	Difficult	49%

***Source**: Authors' calculations based on EWCS-2024 microdata.*

Table A4: Work intensity indicators among residential care workers (ISCO 2, 3 and 5)

Variable	Category	%
Work at high speed	>= 75% of the time	37%
	>=25% and <75% of the time	31%
	<25% of the time	32%
Not enough time to do the job	Always or most of the time	60%
	Sometimes	24%
	Rarely or never	16%
Frequent and disruptive interruptions	Very or fairly often and disruptive	37%
	Very or fairly often bur not disruptive	20%
	Occasionally or never	43%
Hiding your feelings at work	Always or most of the time	41%
	Sometimes	32%
	Rarely or never	27%
Handling angry clients	>= 75% of the time	33%
	>=25% and <75% of the time	36%
	<25% of the time	31%
Being in emotionally disturbing situations	>= 75% of the time	43%
	>=25% and <75% of the time	28%
	<25% of the time	28%

***Source**: Authors' calculations based on EWCS-2024 microdata.*

Table A5: Skills and discretion indicators among residential care workers (ISCO 2, 3 and 5)

Variable	Category	%
Ability to apply your own ideas in work	Always or most of the time	57%
	Sometimes	29%
	Rarely or never	14%
Ability to choose or change order of tasks	Always or most of the time	49%
	Sometimes	26%
	Rarely or never	25%
Ability to choose or change methods of work	Always or most of the time	47%
	Sometimes	27%
	Rarely or never	26%
Consulted before objectives are set for own work	Always or most of the time	33%
	Sometimes	23%
	Rarely or never	43%
Involved in improving the work organisation	Always or most of the time	38%
	Sometimes	31%
	Rarely or never	31%
Training paid for or provided by the employer	Yes	68%
	No	32%
On-the-job training	Yes	61%
	No	39%

***Source**: Authors' calculations based on EWCS-2024 microdata.*

Table A6: Job prospects indicators among residential care workers (ISCO 2, 3 and 5)

Variable	Category	%
Job offers good prospects for career advancement	Strongly agree or tend to agree	42%
	Neither agree nor disagree	18%
	Strongly disagree or tend to disagree	40%
Expecting an undesirable change in work	Strongly agree or tend to agree	21%
	Neither agree nor disagree	6%
	Strongly disagree or tend to disagree	73%
Change in employment in the workplace	Increased	23%
	No change	51%
	Decreased	26%

***Source**: Authors' calculations based on EWCS 2024 microdata.*

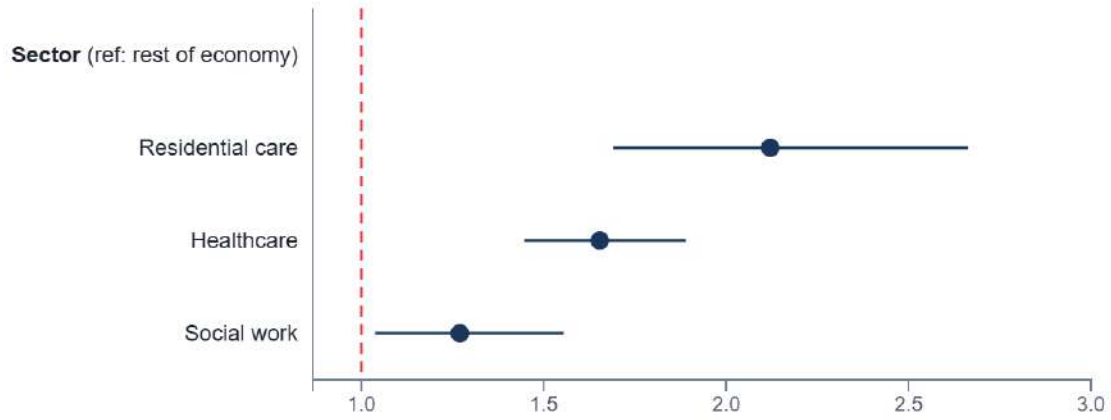
Table A7: Earnings indicators among residential care workers (ISCO 2, 3 and 5)

Variable	Category	%
Get paid appropriately considering all efforts and achievements in the job	Strongly agree or tend to agree	42%
	Neither agree nor disagree	19%
	Strongly disagree or tend to disagree	39%

***Source**: Authors' calculations based on EWCS-2024 microdata.*

Multivariable logistic regression analysis

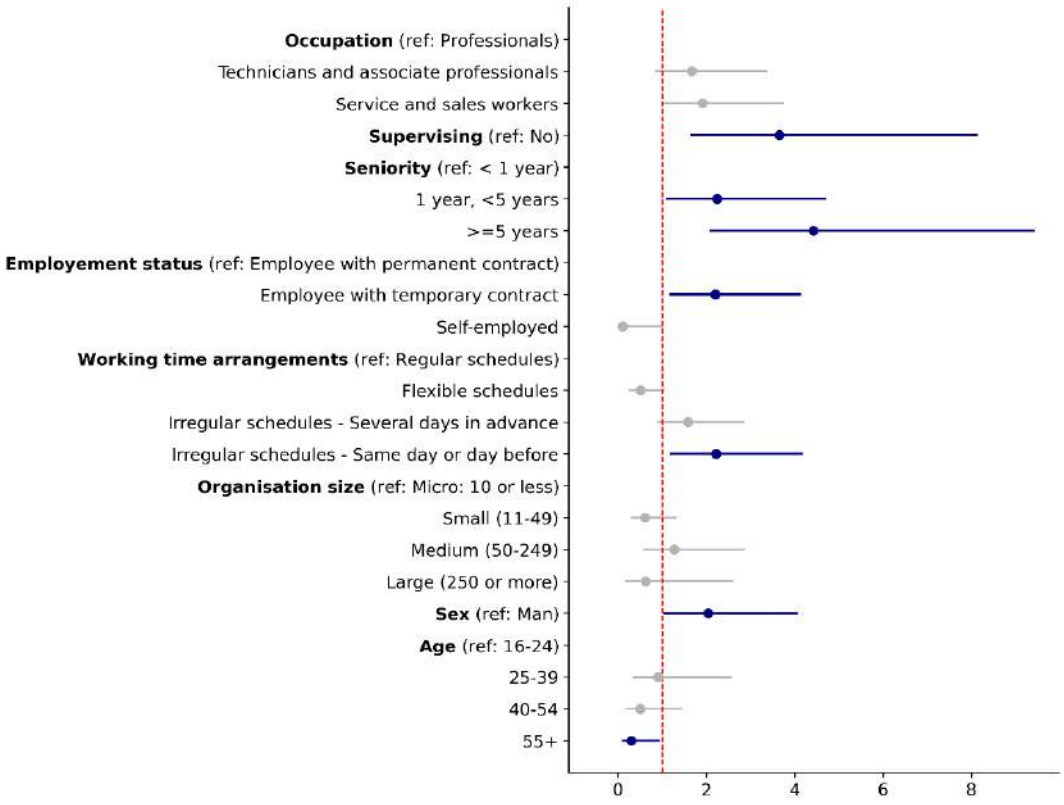
Figure A1: Likelihood of reporting that work has a negative impact on health, by sector (odds ratios)



***Note**: Workers in ISCO 2,3 and 5. Logistic regression model adjusted for country, establishment size, occupation, employment status, working time arrangement, seniority, supervisory role, sex, age, parental status, and educational attainment.*

***Source**: Authors' calculations based on EWCS-2024 microdata.*

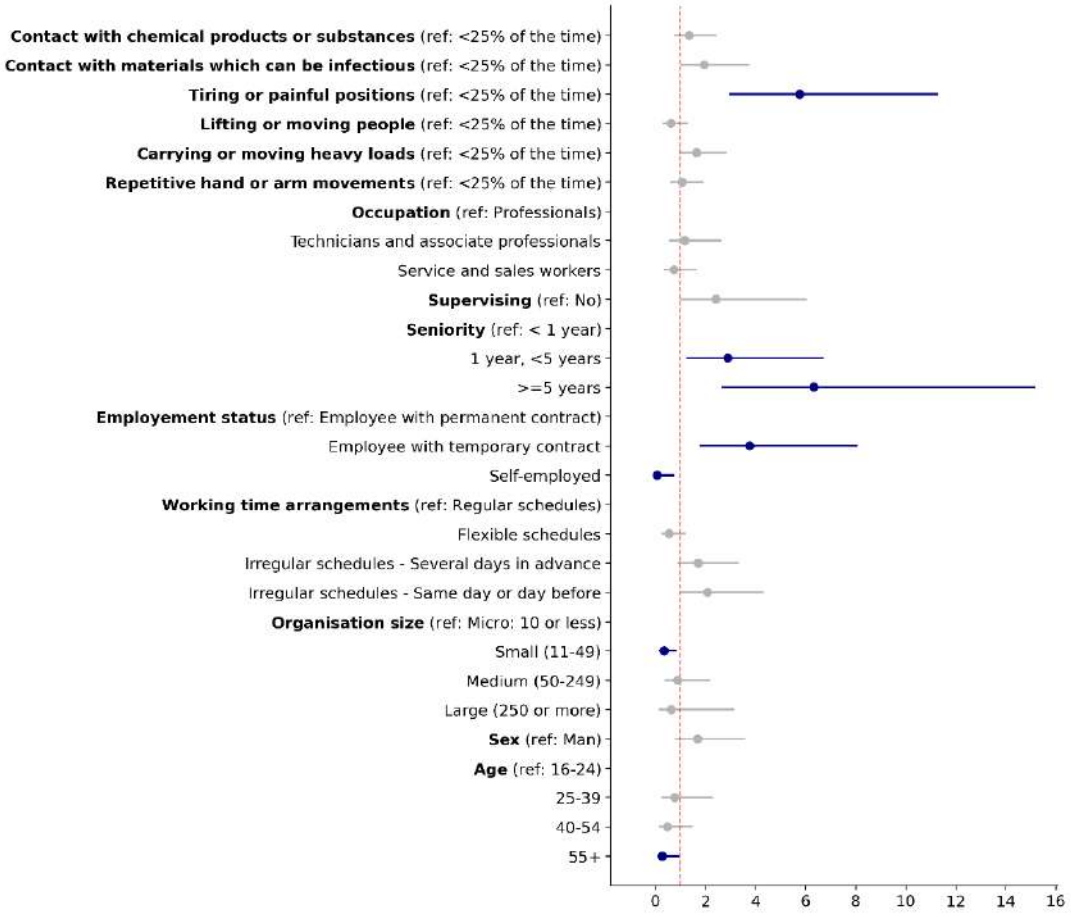
Figure A2: Baseline model. Likelihood of reporting that work has a negative impact on health in the residential care sector, by socio-demographic and labour characteristics (odds ratios)



***Note**: Workers in ISCO 2,3 and 5.*

***Source**: Authors' calculations based on EWCS-2024 microdata.*

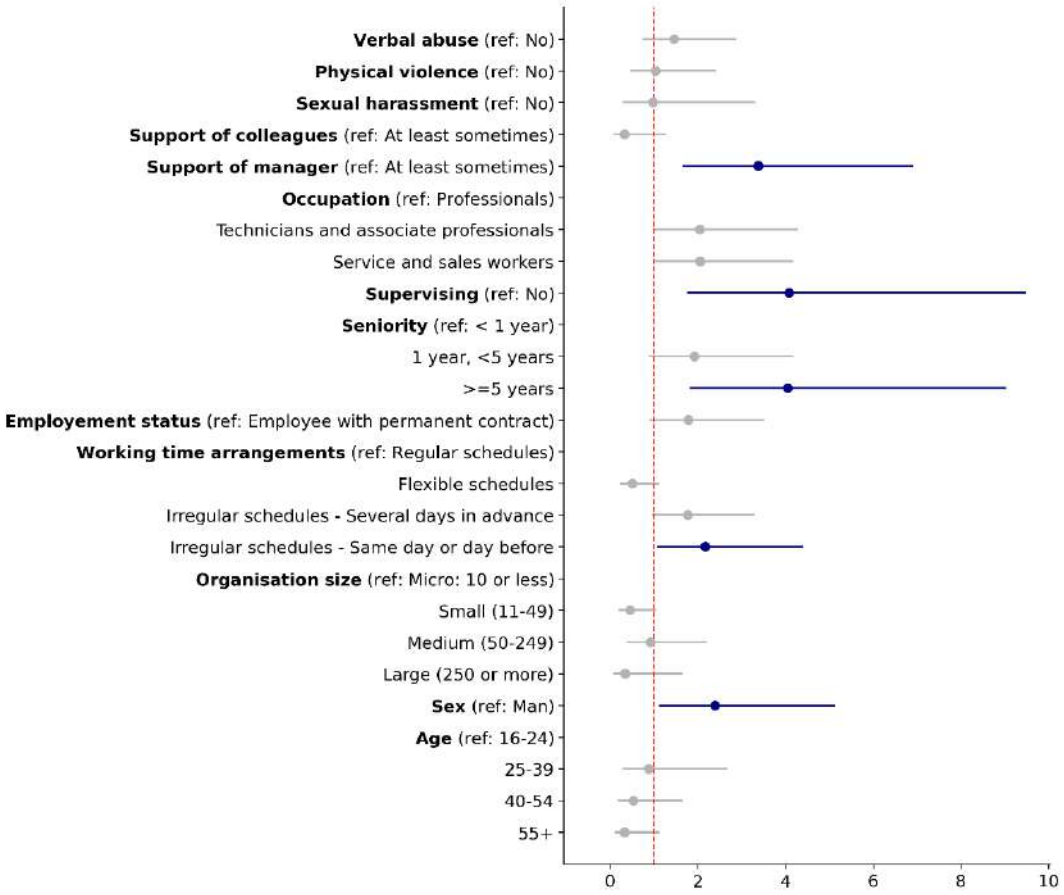
Figure A3: Physical environment model. Likelihood of reporting that work has a negative impact on health in the residential care sector, by physical environment indicators (odds ratios)



***Note**: Workers in ISCO 2,3 and 5.*

***Source**: Authors' calculations based on EWCS-2024 microdata.*

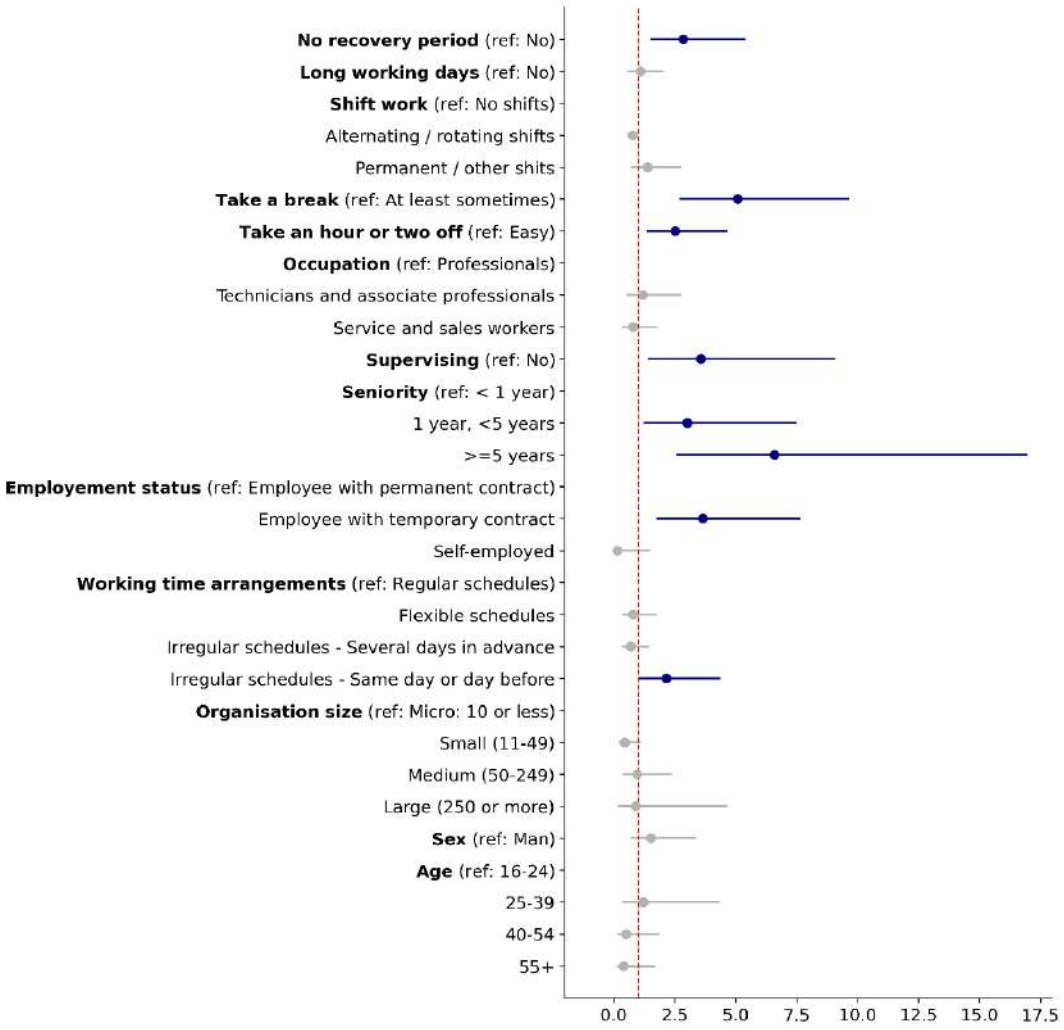
Figure A4: Social environment model. Likelihood of reporting that work has a negative impact on health in the residential care sector, by social environment indicators (odds ratios)



***Note**: Workers in ISCO 2,3 and 5.*

***Source**: Authors' calculations based on EWCS 2024-microdata.*

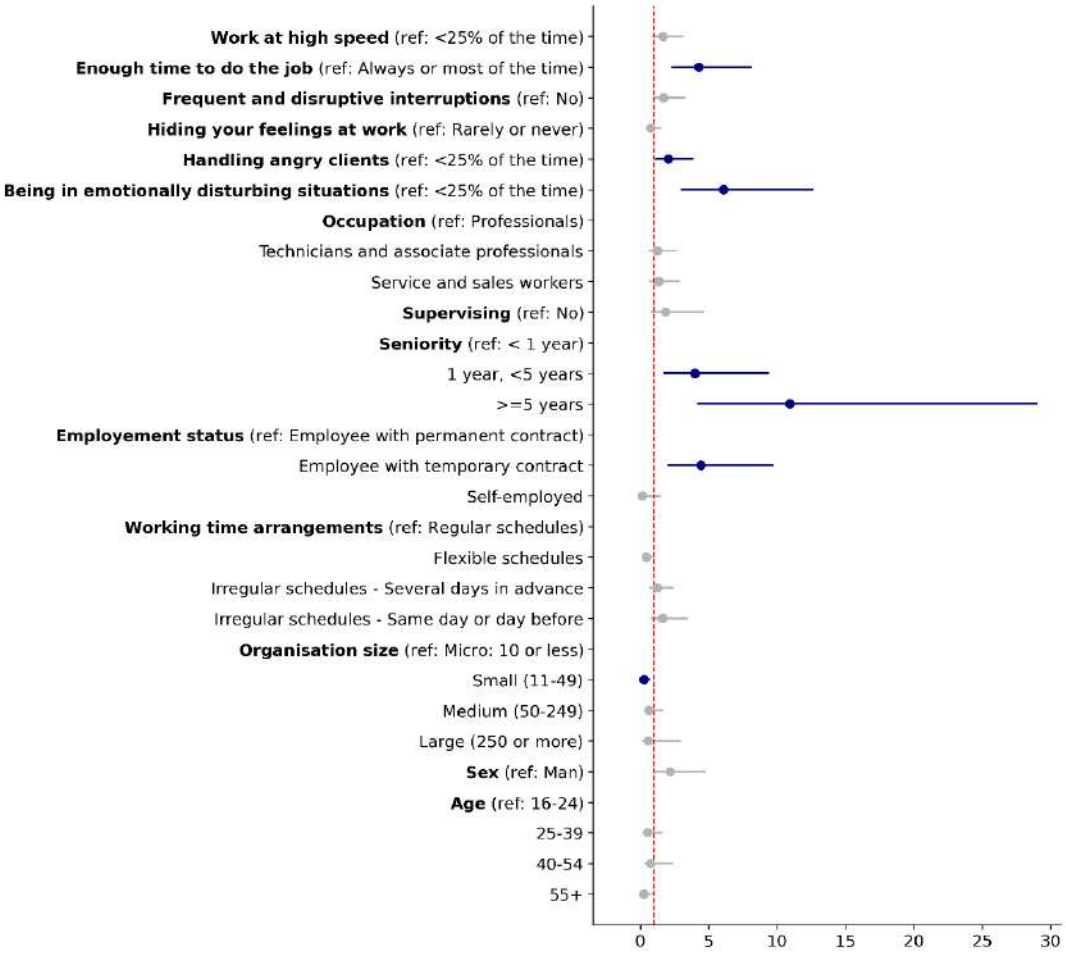
Figure A5: Working time quality model. Likelihood of reporting that work has a negative impact on health in the residential care sector, by working time quality indicators (odds ratios)



***Note**: Workers in ISCO 2,3 and 5.*

***Source**: Authors' calculations based on EWCS-2024 microdata.*

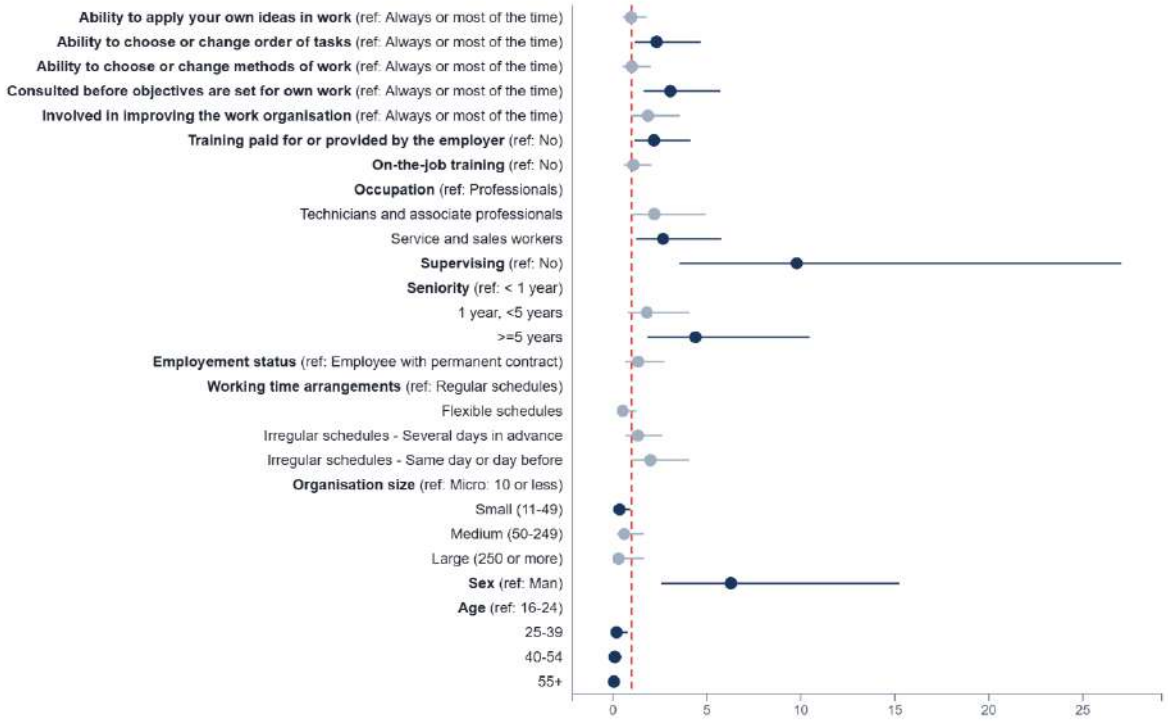
Figure A6: Work intensity model. Likelihood of reporting that work has a negative impact on health in the residential care sector, by work intensity indicators (odds ratios)



***Note**: Workers in ISCO 2,3 and 5.*

***Source**: Authors' calculations based on EWCS-2024 microdata.*

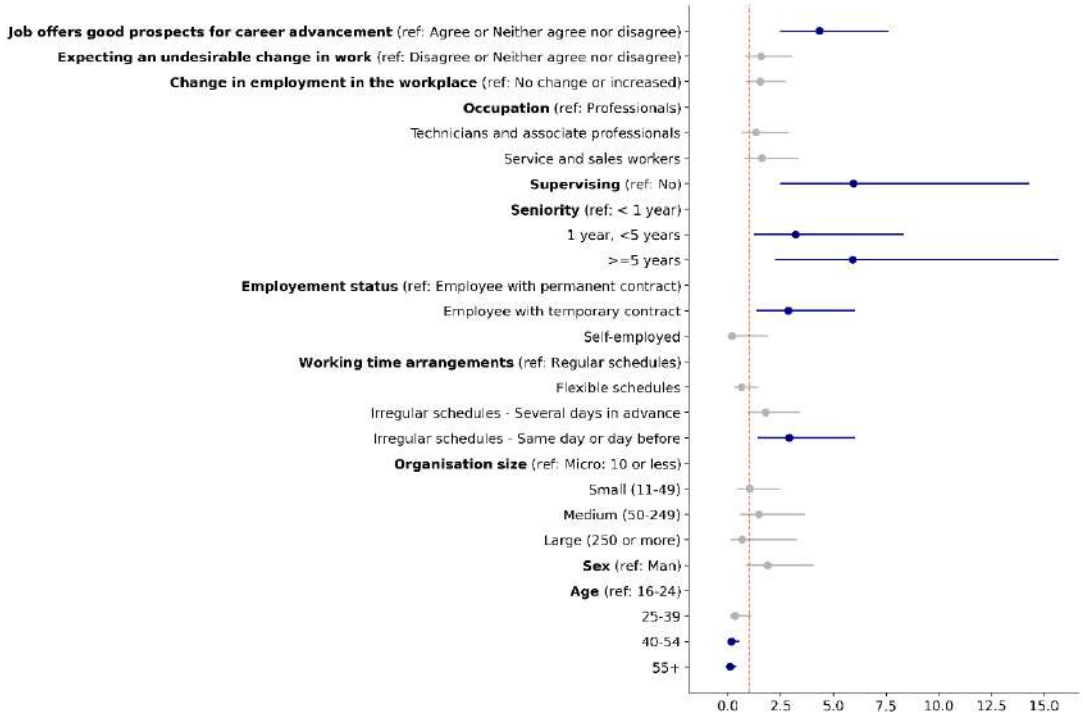
Figure A7: Skills and discretion model. Likelihood of reporting that work has a negative impact on health in the residential care sector, by skills and discretion indicators (odds ratios)



***Note**: Employees in ISCO 2,3 and 5.*

***Source**: Authors' calculations based on EWCS 2024-microdata.*

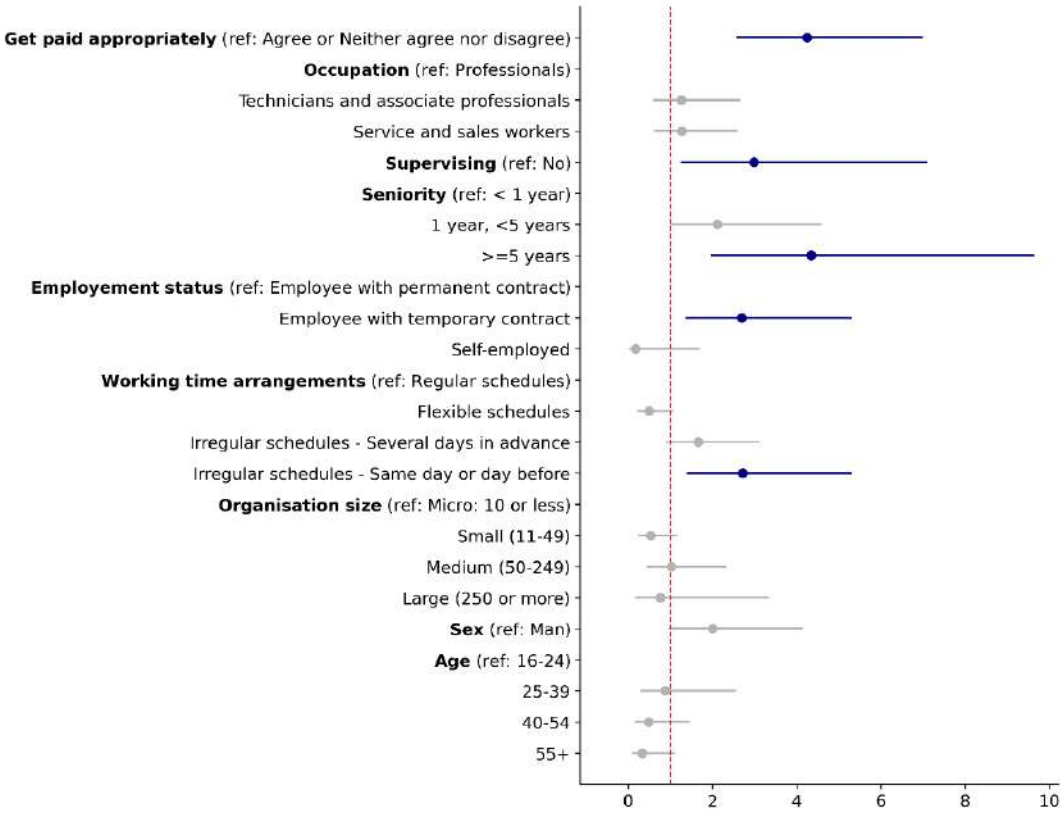
Figure A8: Job prospects model. Likelihood of reporting that work has a negative impact on health in the residential care sector, by job prospects indicators (odds ratios)



***Note**: Workers in ISCO 2,3 and 5.*

***Source**: Authors' calculations based on EWCS-2024 microdata.*

Figure A9: Earnings model. Likelihood of reporting that work has a negative impact on health in the residential care sector, by earnings indicators (odds ratios)



***Note**: Workers in ISCO 2,3 and 5.*

***Source**: Authors' calculations based on EWCS-2024 microdata.*

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