DIGITAL PLATFORM WORK IN THE HEALTH AND SOCIAL CARE SECTOR: IMPLICATIONS FOR OCCUPATIONAL SAFETY AND HEALTH

1 Introduction

The health and social care sector is one of the cornerstones of the European social market economy. It is a major sector in terms of its contribution to employment, the economy and society, by improving the health and wellbeing of citizens across the EU. In many EU countries, the health and social care workforce constitutes around 10% of the total workforce, of whom the majority work within the health and social care sector, and a smaller group works in public administration or in other sectors (EU-OSHA, 2022c).

Although full-time contracts are predominant in the sector, a large proportion of the workforce does work **part-time**, especially women. Similarly, while many working in the sector have an employment contract of permanent duration, **'non-standard' employment arrangements** are common too (e.g. temporary contracts, self-employment), especially among some professions (e.g. physicians). The sector is also characterised by **atypical working times**, like night and shift work, weekend work and so on. Both **horizontal and vertical gender segregation** emerges in the sector: women are overrepresented in the health and social care sector (around 80% of the workforce are women) and working in particular in health and social care occupations, such as personal care providers, domestic helpers and so on, which are typically lower paid and come with poorer working and employment conditions. In the health and social care sector, both **private and public actors** are found, and **public–private partnerships** are common too. These actors form an extensive ecosystem of organisations of different sizes such as hospitals, long-term care facilities and private health clinics, in addition to home care providers, health insurance funds and so on.

With regard to occupational safety and health (OSH), the health and social care sector is often described as a **high-risk sector** in which workers encounter a combination of severe **physical and psychosocial risks**, which may in fact reinforce each other (EU-OSHA, 2022c). Psychosocial risks arise from workers' exposure to situations that are emotionally demanding and contacts with patients and their families, the high risk of being exposed to violence, discrimination and harassment, high workload, and work pressure and related factors. Workers in the health and social care sector are also faced with biological, chemical and musculoskeletal risks (e.g. from dealing with biological agents or drugs containing hazardous chemicals, lifting loads, working in awkward positions when treating patients, etc.). In addition to such risks, workers may have slips, trips or falls, or may be exposed to excessive noise and ionising radiation. Dealing with these OSH risks may require additional training and certification. These different types of risks are well documented based on data from the Third European Survey of Enterprises on New and Emerging Risks (ESENER 2019) in a recent EU-OSHA (2022c) report.

Especially since the outbreak of the **COVID-19 crisis**, the health and social care sector has been at the forefront of the public and policy debates in Europe, and, increasingly, attention has been paid to the working and employment conditions and OSH issues. During the pandemic, **frontline workers**, including health and social care workers, fared poorly on several fronts (Eurofound, 2022): a high work intensity was common among this group of workers, work was reported to be very emotionally and/or physically demanding, and frontline workers had the highest share of workers who felt unrecognised for their work. People working in, for example, healthcare settings were also more likely to contract the virus and to report COVID-19-related harassment or bullying and stigma in their communities (Dye et al., 2020). A growing body of evidence suggests that these difficult conditions had a disproportionately negative impact on the mental health of healthcare workers in comparison with the general working population (Lamb et al., 2021). Workers in health and social care were confronted with increasing psychosocial risks (heavy workloads, unreliable access to high-quality personal protective equipment, working directly with COVID-19 patients and their families), and continued working through the workplace disruptions caused by the pandemic (De Kock et al., 2022).

Importantly, the pandemic is not the sole issue threatening the quality of work in the health and social care sector in the EU. In the last few decades, the health and social care sector has undergone **major restructuring**, especially through austerity policies implemented in the aftermath of the 2008 financial and economic crisis that curtailed public spending in order to reduce government debt (Eurofound, 2022). These policies have contributed to widening gaps between countries in terms of employment prospects and opportunities and have incentivised the international mobility of workers. Furthermore, healthcare reforms have changed the sector's landscape, with an **expansion of private healthcare**, an **increase of the fragmentation of working conditions** and of the **organisations representing employers' and workers' interests**. Turnover, as an outcome of an unhealthy psychosocial work environment and understaffing, further intensifies **high quantitative and emotional demands** in this sector. It creates a **vicious circle in which the lack of personnel** — due to the low attractiveness of the sector, the poor working conditions and high OSH risks — **results in a worsening of working conditions that push even more workers to leave their jobs**.

As a result, already before the pandemic, the health and social care sector faced significant labour and skills shortages. These shortages are expected to grow, as the demand for care rises due to **population ageing and other global trends**, which have a profound impact on the nature of work and the working and employment conditions, including OSH, in the sector (EU-OSHA, 2022c).

Another trend with major implications for health and social care is the **digitalisation of the economy**, which is characterised by datafication, automation, the introduction of robots, cobots, smart technologies and wearables, and the proliferation of artificial intelligence (AI) and digital labour platforms. **Digital platform work** — or all paid labour provided through, on or mediated by a digital labour platform — is on the rise across all economic sectors, including the health and social care sector. In fact, the health and social care sector has since long been a **frontrunner** in datafication and digitalisation (Haux, 2006).

Against this background, this discussion paper aims to **collect and make available evidence about OSH risks and opportunities of digital platform work in the health and social care sector**, and to assist policymakers and platforms with **managing the OSH needs among workers** and help them reap the benefits. The **specific aims** of this paper are: (i) to map the working conditions, OSH risks and health outcomes brought about by digital platform work, and to a lesser extent by platformisation of work, focusing on the challenges and opportunities within the health and social care sector; (ii) to identify and review relevant policies and practices to prevent and manage the OSH risks of digital platform workers; and (iii) to identify and present examples of good practices of OSH management in digital labour platforms in the health and social care sector.

To this end, this paper is based on a **search and analysis of the academic and grey literature** and a **review of the available statistical data** on digital platform work in the health and social care sector (e.g. the 2022 Flash Eurobarometer – OSH Pulse survey). Where possible, examples of platforms and practices are provided. This study builds on previous EU-OSHA research on OSH and digital platform work,[1] and is part of a larger project on OSH in the health and social care sector, which runs until 2026.[2]

2 A general overview of the health and social care sector

2.1 Definition and workforce characteristics

The health and social care sector comprises several sub-sectors dedicated to the provision of health and social work activities. The International Standard Industrial Classification of All Economic Activities (ISIC) divides the sector into three sub-sectors: (i) human health activities; (ii) residential care activities, and (iii) social work activities without accommodation (OECD, 2019). *Human health activities* include activities performed in both general and specialised hospitals (e.g. mental health and substance abuse hospitals, rehabilitation centres) and by medical professionals like general practitioners, dentists and paramedical practitioners. *Residential care activities* refer to the provision of residential care combined with nursing, supervisory or other types of care as required by the residents. *Social work activities* entail the provision of a variety of social assistance services directly to clients (excluding accommodation services). In other words, the health and social care sector covers a range of activities, both of a medical and non-medical nature, executed in various settings. In line with this diversity in work activities, the health and social care sector consists of a wide variety of occupations, from those requiring limited qualifications to those that are highly specialised.

[1] This paper is a follow-up to a study by the European Agency for Safety and Health at Work (EU-OSHA) on occupational safety and health (OSH) policies, research and practices in the context of digital platform work.
[2] See: https://osha.europa.eu/en/themes/health-and-social-care-sector-osh

As indicated above, about 10% of the total EU workforce is engaged in the health and social care sector, of whom around 80% are **women** (EU-OSHA, 2022c); especially care workers, health professionals and health-associate professionals are predominantly women (Cedefop, 2023). The majority of those working in the health and social care sector are 25-49 years old (56%), but the sector also has a high share of **older workers** as 34% belong to the category 50-64 years old. The sector mainly employs workers with a **high** (45%) and **medium** (45%) **educational level**, with low-educated workers accounting for a small share (Cedefop, 2023). Between 2022 and 2035, employment in the health and social care sector is estimated to increase by 12% (Cedefop, 2023).

Research by Eurofound (2020a, 2020b) for the 2010-2015 period shows that **tasks** in the health and social care sector have changed over the past few years: for instance, there has been an 8% increase in cognitive tasks, while physical routines and interactional tasks have become less important. This signals a **development towards more cognitive work**. This is in line with the finding that the highest share of organisations in the health and social care sector considered creative and analytical thinking to be core skills for their workers in 2023 (World Economic Forum, 2023). In addition, van Schalkwyk et al. (2020) mention the following developments with regard to 'who performs the task' in the health and social care sector: 1) **expansion of the role of nurses**, though the authors mention that the findings are mixed and context dependent; 2) notion of **increasingly complex treatments being delivered by multidisciplinary teams**; 3) **growing recognition of the value of patient empowerment**, though again the authors find that the evidence that self-management improves outcomes is quite limited; and 4) **possibilities offered by technological developments** leading to tasks shifting to machines.

2.2 Global trends affecting the health and social care sector

The health and social care sector is subject to a number of global trends that affect **labour demand and supply** as well as the **working and employment conditions and OSH** of the sector (EU-OSHA, 2022c). Key trends and their impact are briefly discussed below, including in each case a reference also to the consequences of the COVID-19 pandemic.

2.2.1 Changing institutional context

Similar to other sectors providing public services, such as postal services and public transportation, the health and social care sector has undergone tremendous change in the past few years, driven by **liberalisation and privatisation** dynamics as part of wider efforts to **reduce government spending and austerity policies and a changing institutional context**. These dynamics have not only opened up the health and social care markets to new players such as digital labour platforms but have also led to a more explicit emphasis on profit, or commercialisation combined with economisation. As a result, work in the health and social care sector is increasingly being **outsourced**, for example cleaning or meal preparation that were initially done by hospital staff, often implying worse working conditions and pay for those involved. This may also mean that staff who were previously employed are being **pushed into self-employment** due to restructuring of care facilities in an attempt to keep costs in check. In such cases, incentives to invest in training, including on OSH, may decrease, as this workforce is seen as temporary and easily replaceable (Avgar et al., 2020). The deployment of both (permanent) in-house staff and of temporary workers and self-employed contractors may also cause friction between workers as well as competition to secure the best paying and highest quality jobs (Smith, 1994). These developments also cause concerns for **the affordability and quality of care provision** (EESC, 2020b).

At the same time, and especially in the aftermath of the COVID-19 pandemic, **health and social care is once again a priority for policymakers at the EU level and in its Member States**. With the EU4Health programme, policymakers aim to: protect and promote public health; improve the access to, affordability of and quality of care provision; and strengthen health systems (European Council, 2023). These aims are echoed in the **European Care Strategy**, launched in 2022, with a view to 'ensure quality, affordable and accessible care services across the EU and improve the situation for both care receivers and those caring for them, professionally or informally' (European Commission, 2022a). The European Care Strategy has an explicit **aim to improve the working conditions for health and social care workers** and **attract more workers to the sector**, in particular men. To this end, the European Commission recommends that Member States: (i) promote collective bargaining and social dialogue, with a view to raise wages and improve working conditions; (ii) ensure the highest OSH standards; (iii) design continuous education and training for health and social care workers; (iv) tackle gender stereotypes around care; and (v) ratify and implement ILO Convention 189 in order to guarantee minimum labour protections for domestic workers (European Commission, 2022a).

The European Care Strategy is linked to the **European Pillar of Social Rights** (EPSR) and its **Action Plan**, which translates the EPSR Principles into actions and proposes headline targets for the EU to reach by 2030. Concerning health and social care, the Commission announced an initiative on long-term care, new tools to better measure barriers and gaps in access to healthcare, and the European Health Data Space. When the Action Plan was launched, the Commission also announced an update of the EU OSH Strategic Framework to ensure it accounts for current technological and societal changes, which present new challenges but also opportunities to improve OSH.

2.2.2 Demographic change

Population ageing is not a new phenomenon, but recent projections do suggest that the ageing of the EU's population will quicken in the coming decades, and this is expected to have a major impact on the health and social care sector in particular. The ageing of the population will result in a **shrinking working-age population**, that is, a declining labour supply of workers, and a **growing number of older and very old people in society with care needs**, that is, a growing demand for health and social care workers (OECD, 2019). These developments, moreover, are intertwined with changes in **family patterns** and **lifestyle factors**, such as a trend towards home-based instead of residential care, which was accelerated by the COVID-19 crisis (Allinger & Adam, 2022). Another example is more sedentary behaviours and overall higher inactivity rates among the population, which result in a growing group of adults with obesity, diabetes and coronary heart disease (EU-OSHA, 2022c). The declining working-age population is especially concerning considering that 34% of the current workforce in health and social care is nearing retirement age (Cedefop, 2023), and the sector struggles with worker retention due to the poor working conditions.

Labour migration can offer a solution to current and growing labour shortages in the health and social care sector, especially for labour-intensive long-term care provision. In 2022, 9.93 million non-EU citizens were employed in the EU labour market in general, and an occupation in which they are currently over-represented is personal care work (European Commission, n.d.). Using labour migration to tackle labour shortages, however, is not without challenges. First, from an OSH perspective, evidence suggests that migrant workers are more likely to accept jobs with poorer working conditions, higher job and income insecurity, and higher OSH risks within a given sector, and they are also more likely to experience health issues or have an accident (EU-OSHA, 2022b). Difficulties with communication, language barriers, different cultural values, perceptions about work in general and OSH, and a more limited knowledge about the OSH regulations in place all contribute to the issue (EU-OSHA, 2022b). In addition, addressing labour shortages in the health and social care sector through migration may cause or aggravate labour shortages in sending countries, which in turn might be remedied through migration from countries where labour is even cheaper. As labour shortages in the health and social care sector persist across Europe, this is unlikely to be a sustainable solution in the long run. Moreover, during the COVID-19 crisis, many health and social care workers permanently returned to their home countries (Allinger & Adam, 2022). The pandemic also reinforced and made more visible the issue of workers leaving health and social care for other sectors with more attractive working conditions and/or pay.

2.2.3 Digitalisation and the rise of digital platform work

Digitalisation and the rise of digital platform work is another major trend that reshapes the provision of health and social care services, as well as work in the health and social care sector. Although the COVID-19 pandemic accelerated the digitalisation and the switch to digital work in the health and care sector, this process had been ongoing for a long time already.

The use of digital technologies can support access to care, boost labour productivity, and improve the working conditions and OSH of care providers (e.g. by automating repetitive or hazardous tasks) (European Commission, 2022b). It can, however, also have downsides, for example, higher workloads and longer working hours, increased job insecurity and deskilling. Digitalisation also requires the availability of infrastructure and equipment (e.g. digital devices, good Internet connectivity) and the necessary skills to work with the technologies.

According to the 2022 EU-OSHA OSH Pulse survey, digitalisation in the health and social care sector is on par with that in other sectors. When asked about **which digital devices workers use for their main job**, 65.8% of workers reported using desktop computers, 70.4% used portable computer devices, 53.5% referred to the use of broadband technology to access the Internet, 11.6% indicated using wearable devices, 4.9% reported the use of AI and 2.9% the use of robots.

55.2% of workers in the health and social care sector indicated in the 2022 OSH Pulse Survey that digital technologies determine the **speed of their work**. 47.9% of health and social care workers indicated that digital technologies **increase surveillance**, and 40.4% stated that the use of digital technologies results in them **working alone**. 23.7% indicated it reduces their **autonomy**. Around one in three respondents within the health and social care sector stated that digital devices are used for **automatically allocating tasks, working time or shifts (36.8%)**, for **having their performance rated by third parties** (36.3%), or for **supervising their work or behaviour** (31.5%). Monitoring noise, chemicals, dust and so on is mentioned by 24.9% of the health and social care workers, while 12.5% reported having their heart rate, blood pressure, posture and so on monitored.

Further analysis of the 2022 OSH Pulse survey data suggests that those **workers in the health and social care sector who noted that digital devices heighten surveillance in their workplace** tend to report **higher frequencies of stress, depression or anxiety** (+8 percentage points) compared to health and social care workers who do not experience that the use of digital devices raises surveillance. These workers also reported **increased incidents of headaches, eyestrain** (+9 percentage points) and **overall fatigue** (+10 percentage points). When digital devices are involved in **supervising or monitoring work or behaviour**, workers reported **more frequent experiences of stress, depression or anxiety** (+10 percentage points), along with **higher occurrences of eyestrain, headaches** (+9 percentage points) and **overall fatigue** (+8 percentage points).

Algorithmic management (AM),[3] or the use of algorithms to allocate, monitor and evaluate work and to steer workers' behaviour and performance, is thus clearly on the rise in the health and social care sector, and it is one of the main characteristics of **digital platform work**, as will be displayed in greater detail in section 3. Whereas initially digital platform work was concentrated in a few sectors, nowadays it is much more widespread. The prevalence of **non-standard work arrangements** — again a main feature of digital platform work — is common in health and social care in conventional work contexts. This makes the health and social care sector susceptible to the rise of digital platform work.

A historical view on digitalisation, platformisation and the emergence of digital platform work in the health and social care sector

The health and social care sector has a long history when it comes to the collection, processing and sharing of data. Already in the 1960s, there were increasing efforts to collect, process and exchange data on patients — medical, paramedical and administrative data — and bring these together in hospital information systems (HIS) (Haux, 2006). The initial aim of such systems was to ensure high-quality and efficient care provision (Haux, 2006; Mohr & Dessers, 2019). Nowadays, data processing is also used to plan care, and thus has an impact on the nature and conditions of health and social care work. Increasingly, internal HIS are opened up for use across institutes, which can be accessed online. At the same time, patients are increasingly regarded as consumers, and behave accordingly (Osei-Frimpong et al., 2018). The digital transition of the health and social care sector together with the drive to save costs, the improvement of diagnostic aids and the disrupting effect of the pandemic has helped to expand the capacity of organisations providing health and social care services to providing services ranging from doctors' consulting to physiotherapy being delivered by video, telephone and email (see for example, TuDoctor, Doctoralia and topdoctors).

The use of digital technologies to coordinate work processes in an organisation is also known as the **'platformisation of work'** (Fernández-Macías et al., 2023). One way in which the platformisation of work is noticeable is the increased use of communication and collaboration tools such as Microsoft Teams. In fact, there is a dedicated Microsoft Teams for Healthcare (Carter, 2021). The use of digital labour platforms in regular work settings, however, can also extend beyond mere communication and collaboration and involve the AM of work. With this in mind, Fernández-Macías et al. (2023) distinguish between: (i) *activity monitoring* (the monitoring of activities carried out with digital tools, such as monitoring of computer use, emails, etc.); (ii) *physical monitoring* (the monitoring of physical presence in the workplace, such as tracking of entry and exit or monitoring working times); (iii) *automated direction systems* (e.g. automatic allocation of time/shifts); and (iv) a*utomated evaluation systems* (e.g. use of ratings to allocate work). With its Algorithmic Management and Platform Work survey (AMPWork), the Joint Research Centre (2023) tried to measure the platformisation of work in Germany and Spain. Compared to other sectors, the health sector showed

[3] Algorithmic management refers to 'the oversight, governance and control practices conducted by software algorithms over many remote workers' (Möhlmann & Zalmanson, 2017, p. 4).

a moderate intensity level of monitoring in 2021, which stems from the presence of activity monitoring. The health sector further has a moderate intensity level of AM compared to other sectors, which only stems from automated direction systems (Fernández-Macías et al., 2023).

2.3 OSH in the health and social care sector

OSH is an important issue for the health and social care sector, as working in the sector presents significant physical and psychosocial risks that affect workers' health and wellbeing (EU-OSHA; 2022d). Data from the 2022 OSH Pulse survey and various waves of the ESENER 2019 survey document higher OSH risks in the health and social care sector compared to other sectors. The OSH Pulse survey reveals that workers in the health and social care sector experienced more or equally as much of every type of health problem as workers in all the other sectors combined. Data from the 2021 European Working Conditions Survey (EWCS) further reveal that workers in the health and social care sector had the highest proportion of strained jobs (Eurofound, 2022), where the number of job demands exceeded the number of job resources. Health associate professional was the only occupation where the majority of the workers were in strained jobs (53%).

2.3.1 OSH risks in the health and social care sector

Workers in the health and social care sector encounter challenges directly tied to their work environment. The nature of their roles often requires prolonged periods of physical exertion, exposure to **biological and chemical risks** (especially in sub-sectors of human health activities and residential care activities), and extended shifts, which can lead to physical strain and fatigue (Eurofound, 2022; EU-OSHA, 2022c). Health and social care workers may also encounter **physical risks** such as slips, trips or falls, exposure to ionising radiation, exposure to noise and so on. In terms of **musculoskeletal risks**, the main risks in the health and social care sector are repetitive hand and arm movements, prolonged sitting, and working in tiring and painful positions, as well as lifting people or heavy loads (EU-OSHA, 2022c; Eurofound, 2022).

Regarding **psychosocial risks**, survey data show that the highest prevalence of *verbal abuse, bullying, harassment, violence* and *unwanted sexual attention* was reported by workers in the health and social care sector (EU-OSHA, 2022d; Eurofound 2022). The sector further ranked second on the exposure to discrimination. For all cases, women in the health and social care sector reported being more exposed than men (Eurofound, 2022). These findings are corroborated in the OSH Pulse survey, where 29.5% of workers in the health and social care sector reported having been exposed to violence or verbal abuse from customers, patients and so on, which is more than double the average of all other sectors. The emotional demands of providing care to patients in distressing situations can drive stress-related health issues (EU-OSHA, 2022c).

According to the OSH Pulse survey, 51.4% of those in health and social care reported feeling *severe time pressure* or *work overload*, which is 6.4 percentage points higher than the average in all other sectors. 32.1% reported facing poor communication or cooperation within the organisation (6.8 percentage points higher than the average of all other sectors). Also, other sources confirm that (severe) *time pressure* and *working at high speed* is more common in the health and social care sector than elsewhere (EU-OSHA, 2022c, 2022d; Eurofound, 2022). Workers in the sector are thus confronted with a *high work intensity level* compared to other sectors. The extent of time pressure has increased over the years, as evident from the comparison between the ESENER 2014 and 2019 data (EU-OSHA, 2022c). High work intensity is not necessarily problematic when it is paired with the autonomy to adjust the pressure when needed. Workers in the health and social care sector, however, were the least likely to report having *autonomy* as regards the speed of work (Eurofound, 2022). More generally, data from the 2022 OSH Pulse survey reveal that the sector scored the highest, of all sectors, on '*lack of autonomy*' (EU-OSHA, 2022d). The sector also scored relatively low on the extent to which employees received support from managers. On a more positive note, about half of the workers in health and social care reported that their colleagues or peers always helped and supported them (Eurofound, 2022). Less positive outcomes are observed for trust in management. Specifically, workers in the health and social care sector were least likely to agree with the statement that employees, in general, trust management (Eurofound, 2022). This outcome could be related to findings from the ESENER 2019 survey and the OSH Pulse survey (EU-OSHA, 2022c, 2022d), which show that the health and social care sector scored higher on the factor 'poor communication or cooperation within the organisation' compared to other sectors.

According to data from the European Working Conditions Surveys (EWCS) (Eurofound, 2020b, 2022), the health and social care sector relies heavily on non-standard employment contracts compared to other sectors. Data from the 2015 EWCS show that the sector has the highest proportion of *part-time employment* out of all sectors. A similar conclusion can be drawn based on the data from 2019, since working weeks of four days or

fewer was found to be common among workers in the health and social care sector. This is likely, in part, related to the high proportion of women active in the health and social care sector and the work–life balance choices they often have to make. Finally, 2015 data show that part of the part-time work is involuntary (7.8% among women and 4.5% among men). Unlike the findings for part-time work, the proportion of *temporary contracts*, both short and long term, did not stand out compared to other sectors in the 2015 data. The 2021 EWCS data, however, indicate that short-term temporary contracts were more common in the health and social care sector. The high level of precariousness in the health and social care sector is problematic, and it mostly appears to affect migrant workers in the sector (*income and job insecurity*) (EU-OSHA, 2022c).

The high proportion of part-time workers in the health and social care sector is reflected in the findings for the *weekly hours per sector* (Eurofound, 2022). Specifically, the health and social care sector is among the top three sectors for '20 or fewer hours' and '21-34 hours'. This is in line with the 2015 EWCS data, which show that the usual, weekly hours worked by part-timers in the health and social care sector was 22.5 (Eurofound, 2020b). Both 2015 and 2019 EWCS reports further reveal that employees in the health and social care sector have few usual weekly hours of more than 40 hours, compared to other sectors. According to ESENER 2019 data, almost a third of the workers in the sector reported *working long or irregular hours* (EU-OSHA, 2022c).

The impact of **the COVID-19 pandemic** should also be considered. According to the 2022 OSH Pulse survey, 55% of respondents in the health and social care sector acknowledged that the crisis has encouraged discussions about stress and mental health in the workplace (in contrast to 52% across all other sectors), but 59% stated a surge in work-related stress attributed to the pandemic (compared to 43% across all other sectors). This could suggest a more pronounced adverse effect of the pandemic on the health and social care sector, particularly on frontline workers. Notably, there is no difference between sectors as regards comfort in discussing mental health with their managers (62% of workers), or in acknowledging that revealing a mental health condition might have a negative impact on their career (52%). The latter is concerning, suggesting that although approximately 60% of all respondents reported having access to initiatives promoting awareness of health and safety, over 50% still harboured concerns about the potential repercussions of disclosing a mental health condition on their professional trajectory.

2.3.2 Prevention and management of OSH risks

According to the 2022 OSH Pulse survey, workers in the health and social care sector seem, on average, **satisfied with the OSH measures in place**. Over 83% affirmed the presence of good measures safeguarding workers' health in their workplace (compared to 84% on average across all sectors), and 81% stated that workers are encouraged to report safety and health concerns (82% on average in all sectors). 80% indicated that safety issues are promptly addressed, five percentage points below the average reported for all other sectors. In the health and social care sector, roughly half of the respondents reported having access to services like counselling or psychological support, consultation with workers regarding stressful aspects of their work, as well as receiving training and information on wellbeing and stress management. The most frequently mentioned measure is the implementation of awareness-raising activities or other efforts to disseminate information on OSH; 62% of respondents in health and social care reported its presence, compared to 58% for all other sectors.

Findings from a recent EU-OSHA study (EU-OSHA, 2022c) based on ESENER 2019 data are in line with these findings. The study reveals that establishments in the human health and social care sector are more likely to have effective OSH management compared to establishments in other sectors. Establishments primarily rely on internal support for OSH management and implement various measures to minimise both musculoskeletal and psychosocial risks. Notably, the health and social care sector outperforms the average across all sectors in terms of having action plans to address stress and procedures for handling bullying, harassment and threats from external parties. The most common preventive measures include providing ergonomic equipment, aiding in lifting or moving heavy loads, and allowing workers with health issues to reduce their working hours. Overall, establishments in the health and social care sector, particularly in larger and public sector entities, demonstrate well-developed psychosocial risk management. They also exhibit a higher uptake of measures to prevent psychosocial risks compared to establishments in other sectors. Additionally, the human health and social care sector reports a higher utilisation of OSH services across the ESENER waves for almost all services in comparison to other sectors.

3 Digital platform work and OSH implications in the health and social care sector

3.1 Digital platform work in the health and social care sector

Following previous EU-OSHA research on the topic, in this report **digital platform work** is defined as 'all paid labour provided through, on or mediated by a digital labour platform' (EU-OSHA, 2022b). There are typically at least three parties involved in digital platform work: a digital labour platform, a client and a digital platform worker. A digital labour platform is 'an online facility or marketplace operating on digital technologies (including the use of mobile apps) that are owned and/or operated by an undertaking, facilitating the matching between the demand for and supply of labour provided by a platform worker' (EU-OSHA, 2022b). A digital platform worker is an individual who provides labour, intermediated with a greater or lesser extent of control via a digital labour platform, irrespective of their legal employment status (EU-OSHA, 2022b). Digital platform work can involve tasks that are executed on location as well as online through specialist digital platforms being used for example by doctors with standard employment to allow remote work. The matching between client and digital platform worker however will always occurs online.

Although digital platform work typically involves three parties — a digital labour platform, a digital platform worker and a client — this can be different in the context of health and social care activities, which in turn potentially complicates the determination of the nature of the employment relationships. The health and social care sector is characterised by a higher number of players, such as health insurance funds, social services, private clinics, public hospitals, municipal services for public health and welfare, and so on. Some of the digital labour platforms that operate in the health and social care sector appear to **collaborate with this ecosystem of actors, are supported by them or were established by existing organisations**. The example of the Belgian platform Helpper is a case in point. Collaboration with other actors can help to raise the quality of the service provision and serve as a safety check for clients using platforms. Digital labour platforms can benefit from such collaborations by building on the networks and expertise of these actors, and in some cases this may even be a prerequisite to enter the health and social care market. What is interesting to note here is that some digital labour platforms are launched by existing health and social care organisations, or with the support of public authorities.

Digital labour platforms matching care providers with care receivers have gained ground in health and social care. This phenomenon is sometimes referred to as the 'uberisation' of care (Molitor, 2019; EESC, 2020a, 2020b). Research on digital platform work in the health and social care sector has shown that this presents major opportunities but also important risks to the care providers and care receivers (EESC, 2020b; Eurofound, 2020b). For *individuals with care needs*, digital labour platforms can provide access to a wider, cheaper and higher-quality care offer, with more options for tailor-made and individualised care (EESC, 2020b). Being able to set up an online consultation, for example, could help save time and resources. For *organisations active in the health and social care sector*, platforms could help to gain access to a wider range of clients and workers, lead to efficiency or cost gains, and so on (EESC, 2020b). For *care providers*, digital platform work could offer ways to address issues with the working conditions and OSH in traditional health and social care settings, for example, gaining control over their working times, avoiding physical violence and so on (EESC, 2020b). However, both care providers and care receivers find themselves in vulnerable positions, and the use of AM can exacerbate rather than alleviate certain risks, as further explained below.

3.1.1 Prevalence of digital labour platforms and worker profiles

In general, data on digital platform work that are easily comparable across countries are limited, however attempts in this direction are being made. Examples are the COLLEEM surveys conducted in 2017 and 2018 (Urzi Brancati et al., 2020), the ETUI Internet and Platform Work Survey (Piasna et al., 2022), and the recent OSH Pulse survey (EU-OSHA, 2022d) (see previous EU-OSHA research on digital platform work for a detailed discussion on this).

In light of recent EU policy developments on platform work, Eurostat ran a pilot survey on digital platform work in 2022 among 16 EU countries and one European Free Trade Association country (OECD/ILO/European Union, 2023). Aggregated results across all 17 countries show that 3% of all people aged 15-64 performed at least one hour of digital platform work in the last 12 months and the vast majority of them (80.1%) reported performing platform work in only one type of task or service. **Health and social care sector activities** were positioned in a shared fourth place (medical and healthcare services were performed by 0.3% of people aged 15-64) and a shared sixth place (child and elderly care was reported by 0.1% of all people aged 15-64). These

findings show that digital platform work is present in the health and social care sector but not as prominently as other activities. Other studies also suggest that the growing prevalence of digital platform work across various sectors is mirrored in the health and social care sector, not only in Europe but worldwide (EESC, 2020b; Eurofound, 2020b).

Another source of data on the prevalence of digital platform work in the health and social care sector is the 2022 OSH Pulse survey, which contains one question on platform work, specifically asking respondents if they **primarily or partially earn their income through digital labour platforms**.[4] Across all sectors and all 27 EU Member States, 3% of respondents indicated that most of their income is derived from digital platforms, while another 3% indicated that part of their income comes from digital platform work. The absence of significant disparities across genders, migration status, education levels or employment status in these findings is noteworthy. However, it is worth mentioning that platform work is more prevalent among younger workers, with 9% of those below 24 years old reporting that most or part of their income stems from platform work, compared to 5% of individuals aged 40-54. Of those **respondents working in the health and social care sector**, 2% stated that most of their income is sourced from platform work, while 3% reported that part of their income comes from platform work. As expected, platform workers report more often than others that the organisation where they work uses digital devices for the allocation, monitoring and evaluation of work (EU-OSHA, 2022d).

As data on digital platform work in the health and social care sector are limited, gaining further insight into **workers' profiles** is not straightforward. Results from the pilot study on digital platform work conducted by OECD/ILO/European Union (2023) show that those who reported working at least one hour using digital platforms in the 12 months prior to the survey were: mostly young (under the age of 30), were more likely to have a high level of education, and were more likely to be male than female. These findings corroborate earlier studies on digital platform work, including the 2022 OSH Pulse survey (EU-OSHA, 2022d). The share of **women** digital platform workers, however, is on the rise (Barcevičius et al., 2021; EIGE, 2022). Although digital platform work is becoming less gender-segregated according to the most recent research (EIGE, 2022), women are also overrepresented in digital platform work in traditionally female-dominated sectors and jobs, including health and social care (Piasna & Drahokoupil, 2019; EIGE, 2022). Being able to earn an income, more flexibility and a better work–life balance are more often raised by women than men as reasons to work via digital labour platforms (EIGE, 2022).

As well as women, **(non-EU) migrant workers** are overrepresented in digital platform work, in the health and social care sector in general. Given the existing labour shortages in the health and social care sector and the presence of remote virtual medical work (e.g. online doctor consultations), digital platform work could increase the share of 'foreign located workers' in the health and social care sector. One of the explanations for this high share of migrant workers in digital platform work is the low barriers to enter labour markets that might otherwise remain inaccessible (EU-OSHA, 2022b; EIGE & Eurofound, 2023). In health and social care, this may create opportunities for some workers, for example in the domestic work sub-sector where it is typically not required to provide proof of qualifications through diplomas or certificates, although language and cultural barriers may exist. The need to ensure that workers possess the qualifications and experience to provide high-quality care, for example when medical tasks are concerned, may raise the challenge of skill validation and recognition of qualifications.

3.1.2 Digital labour platform work in health and social care

Digital platform work in the health and social care sector typically concerns **conventional services that are made available through a digital labour platform**. There is an overlap between the health and social care tasks that are conducted as digital platform work and those under conventional settings of care provision. In line with the wide variety of occupations found in the health and social sector, digital platform work can take on various forms. It can involve tasks that are performed online or on location, which require specific qualifications or high levels of education or no education at all. While some of these tasks are conducted in other sectors or settings as well (e.g. cleaning, grocery shopping), other tasks are specific to the health and social care sector and may even require certain licences, certificates or diplomas to be able and legally allowed to perform them (e.g. administering medication, administrative follow-up). Many of those kinds of tasks are related to or embedded in the relationship between care provider and receiver, which is a relationship governed

[4] Question D5e 'Do you earn most or at least part of your income working for a digital platform?' The respondent has three response options: 1) Yes, most of my income; 2) Yes, part of my income; 3) No. It is crucial to highlight that this question does not provide information regarding the frequency of platform work or whether the work performed through digital platforms is directly related to the respondent's primary sector of employment.

by ethics, deontology and a dedicated legal framework (e.g. legislation on patients' rights, professional secrecy, administration and reimbursement of the care provided).

In this regard, digital platform workers providing health and social care have diverse **professions**, including qualified professionals, such as doctors, nurses, physical therapists and psychologists. Some digital labour platforms limit participation to licensed professionals or impose strict eligibility conditions. For example, the platform BloomUp — an all-in-one platform that allows individuals to book online therapy sessions and to develop skills to increase their mental wellbeing and resilience, and companies to perform a wellbeing scan of their workforce or set up a human resources dashboard — only permits clinical psychologists and psychotherapists who have been certified by the Belgian government. The platform is collaborating with the health insurance provider CM and has several large companies on its list of clients (Digital Future Society, 2021). Other examples are Curafides — a healthcare marketplace for nursing services and assisted living that operates in multiple countries in Europe and worldwide — that requires workers to upload certificates as a proof of their qualification, and Joyners — a digital labour platform active in Spain through which a variety of care services can be requested, such as urgent at-home care, night-time care at home and so on — engages qualified professionals including nurses and social workers (Digital Future Society, 2021). Contrary to this, some platforms do not impose eligibility criteria (e.g. Helpling, a platform intermediating cleaning services (this more generally applies for many non-medical work activities)), as is common in other platform work domains such as food delivery.

Recent work by Eurofound (2020a) suggests an upward trend of the **provision of home care via digital labour platforms** due to the simultaneous emergence of such platforms in most countries. Examples are: Pflegix and Pflegetiger (Germany), Curafides (Austria), Home Care Direct (Ireland, UK), Care.com (10 EU Member States), Nannuka.com (Cyprus, Greece, Ireland, UK) and Yoopies (19 countries). Given the nature of the provided service, the performed tasks are on location. Domestic work implies work performed in or for households, on location. The work performed is broad as it varies from cleaning, cooking and gardening to caring for elderly and disabled people. A recent ILO (2021a) report mentions a global rise in the number of digital labour platforms in the domestic work sector from 28 platforms in 2010 to 224 platforms in 2020 and further explains that the share of digital labour platforms in domestic and care work is still smaller than that of traditional and hybrid companies but growing.

The wide range of services provided by the health and social care sector also makes it difficult to clearly delimit them when studying digital platform work. An example is platforms that intermediate tasks such as domestic work or professional services such as cleaning, handiwork and so on, which could be used by those with care needs, but also by others, and would thus not consider themselves as health and social care platforms. However, some platforms that offer such activities do target individuals with care needs specifically. The Belgian platform Helpper, for example, was launched by the CEO after he experienced difficulties in finding someone to provide non-medical care to a family member. Helpper aims to match up persons with care needs with care providers in their local neighbourhood. Set up as an independent initiative, Helpper is now supported by the health insurance funds OZ, Partenamut and Partena and by accelerator Start it @KBC. Because of this collaboration, flyers promoting Helpper are widely available in doctors' offices in the cities where the platform operates. Clients of the health insurance funds involved in the partnership get the first hour of care sourced through the Helpper platform free of charge and the registration fee that must be paid to set up an account is also covered by the insurance fund.

Conversely, **platforms facilitating medical care services** appear less common, but their numbers are increasing in Europe and beyond. Some examples are Familiados and Depencare (Spanish platforms catering to elderly and dependent care). The presence of platforms like BetterHelp ('the world's largest therapy platform'[5]) and Mobidoctor ('a telemedicine start-up aiming to improve primary care in the EU'[6]) further signals the existence of platforms in Europe for activities outside the home care context. The healthcare activities offered via these digital labour platforms are fully online and thus used for *remote virtual medical work*.

An article from June 2023 in The Wall Street Journal mentions that 'a growing group of physicians are ditching medicine's traditional career path and hitting the road as *temporary doctors-for-hire*' (Tarrant, 2023). This article is based on results from the 2023 state of locum tenens report by CHG Healthcare (2023), which reports an 88% increase in physicians working locums (i.e. the practice of physicians, physician assistants and nurse practitioners taking temporary jobs in healthcare facilities with staffing needs) since 2015. Two examples of

[5] See: https://www.betterhelp.com/
[6] See: https://www.mobidoctor.eu/

platforms that connect a broader group of healthcare workers to hospitals and health care facilities in the United States (US) are Nomad and Medely. The extent to which physicians (assistants) and nurse practitioners in Europe are becoming temporary 'carers-for-hire' is unclear. But the platform CareSquare in Flanders (Belgium) shows that the trend of temporary carers-for-hire also exists in Europe.

The platform WorkFlow,[7] active in the region of Rijnmond in the Netherlands, overlaps with the trend of temporary 'doctors-for-hire' in the sense that workers active on WorkFlow travel (to an extent) between locations and have flexibility in their work schedule. But these workers are not confronted with a common downside of platform work, that is, being self-employed. In other words, WorkFlow reveals a set-up that offers health professionals the flexibility that people often seek in platform work with the security of an employment contract (and all the associated benefits such as pension, training and insurance as well as an additional income bonus). Specifically, workers using this platform get a contract at one of the nine hospitals affiliated with the platform while being able to create their own work schedule by registering for a service or assignment via the platform. Working for this platform does entail that the employee works at least 50% per year at their 'own hospital' (i.e. at which they signed a contract) and at least 25% at one of the other participating hospitals. According to an article in ZiPconomy (Lubbers, 2022), WorkFlow can be seen as a '*regional employmentship*'.

Another noticeable characteristic of digital platform work in health and social care is that care receivers are often particularly **vulnerable**, for example, persons with a disability or elderly individuals, which raises ethical and deontological risks, and which in turn can cause stress to both the care provider and receiver. At the same time, health and social care workers are themselves vulnerable and faced with discrimination, violence and harassment, which is exacerbated in a digital platform work context (e.g. cyberbullying). The need to get good reviews from care receivers in order to be allocated work in the future can be an incentive for care providers to tolerate behaviour they would not tolerate in a more traditional setting.

A related point is the issue of **repeated service provision by a digital platform worker to the same care receiver over a period of time**. Several digital labour platforms set up eligibility criteria for workers and subject potential workers to a screening process upon joining (e.g. identity check, verification of diploma, formal interview to assess skills and expertise, etc.). Both Helpper and BloomUp, for example, apply such practices. BloomUp even goes beyond this initial check and obliges regular moments of supervision: digital platform workers with less than one year of experience undergo two supervisions per month; those with one to three years of experience are subject to one supervision each quarter; and those with more than three years of experience get one supervision each year.

In some cases, the care seekers themselves may not be actively engaged on the digital labour platform; instead, their **relatives or designated individuals responsible for organising their care** manage platform interactions. Some digital labour platforms accommodate this by allowing users to set up an account for themselves or on behalf of someone else, as is the case on Helpper. Moreover, the Helpper platform allows to indicate whether one is signing up as a private individual or as a professional to manage a case file (and in this case, it is also possible to hand over the file to a colleague if needed). While it is often not possible or allowed to **work for the same client over an extended period of time**, this seems to be different for health and social care service provision through digital labour platforms, where building trust between care provider and client is key (EESC, 2020b). Some digital labour platforms do allow to schedule regular appointments or work with subscription models.

3.2 OSH implications of digital platform work in the health and social care sector

Previous research on digital platform work has highlighted that digital platform workers are faced with a wide range of physical and psychosocial risks directly related to the tasks that they execute as platform work. Considering that health and social care tasks already come with aggravated risks in comparison to other sectors, this requires significant attention for OSH issues. At the same time, it is clear that **the nature of digital platform work and the way that it is organised and managed through AM and digital surveillance mechanisms exacerbate existing OSH risks**. The **prevalence of non-standard work arrangements** further contributes to this issue, and again, it is already quite common in the health and social care sector in regular settings too.

[7] See: https://deworkflow.nl/

While the ESENER 2019 and 2022 OSH Pulse surveys show that workers and companies in the health and social care sector are more aware of the OSH risks in their field and are doing more to prevent and manage them, the research on digital platform work has also in fact shown that **attention to prevention and management of OSH risks is almost absent in digital platform work**, **and only few examples of actual measures and practices exist**. This is particularly problematic and warrants attention when discussing OSH in the context of digital platform work in health and social care, considering the physical and psychosocial risks that workers in the health and social care sector already encounter in 'traditional' work settings (e.g. exposure to biological and chemical risks related to the administration of medication, exposure to radiation and noise, musculoskeletal risks due to having to lift patients, high emotional demands, verbal abuse, unwanted sexual attention, discrimination, etc.).

3.2.1 Legal employment status of digital platform workers

Digital platform workers are usually **classified as self-employed** by the terms and conditions set by the digital labour platforms. As a result, digital platform workers are responsible for their own safety and health, as the EU OSH Framework Directive, its daughter directives and national legal frameworks on OSH are only applicable to dependent employment relationships (EU-OSHA, 2022c). By categorising digital platform workers as self-employed, digital labour platforms push the responsibility and liability for the prevention and management of OSH risks onto workers (EU-OSHA, 2022c; European Commission, 2022). Besides the impact on OSH, having the legal employment status of self-employed may also mean that digital platform workers have no or a more limited coverage by other legal frameworks as well, such as rules on discrimination, social protection and so on (EU-OSHA, 2022b). This lack of coverage, moreover, is coupled with a limited understanding and awareness among digital platform workers of OSH risks and OSH risk prevention and management. In the case of the health and social care sector, this is especially problematic given the high shares of younger workers, women workers and migrant workers (EU-OSHA, 2022c) and the fact that OSH risks are already aggravated in the sector (e.g. in terms of the exposure to biological and chemical risks, the unknown work environment when workers enter patients' homes).

This practice of categorising digital platform workers as self-employed contractors is common in platform work and also seems prevalent on digital labour platforms intermediating health and social care tasks. Although being categorised as self-employed might correspond with the real situation for some workers (e.g. doctors, who tend to work as self-employed in traditional health and social care settings), this will not hold true for others but rather represent a misclassification. In such cases, workers may miss some of the rights and protections they are entitled to, included in the area of OSH (e.g. access to training on OSH, health insurance coverage, provision of personal protective equipment). The high prevalence of non-standard work in the health and social care sector can further aggravate this issue or imply that workers who already are in a vulnerable position combine non-standard work with digital platform work (EESC, 2020b). In addition, even when correctly classified as self-employed, digital platform workers may not have the flexibility and autonomy they would expect to have under such circumstances (e.g. full autonomy to set their pay) (Barcevičius et al., 2021). All of this can result in job and income insecurity and cause stress.

Digital platform workers may thus find themselves responsible for ensuring their physical and emotional wellbeing. Digital labour platforms generally do not provide the necessary personal protection gear and physical aiding tools, which is especially worrisome for home carers, may not offer training to cope with the physical and psychosocial risks, and may not provide access to confidential counselling. The self-employed status further entails that digital platform workers lack access to important means for improving OSH in organisations, like various forms of employee representation and employee involvement in psychosocial risk management. To make matters worse, digital platform workers may not have the strong collegial support that 'traditional' workers have to aid them with the psychosocial risks they face in their work (as they operate online or collaborate with people they do not really know). Lecher (2023) stresses these issues within the context of on-location work for nurses and explains that the push to digital platform work allows organisations to compartmentalise the work so that nurses do not have relationships with each other and cannot organise and demand safe staffing conditions.

New types of digital labour platforms are emerging that address the issues of being self-employed, and in so doing the OSH issues discussed above. One example is the earlier mentioned platform WorkFlow. Because healthcare professionals on WorkFlow have an employment contract with one of the hospitals associated with the platform, they gain access to the benefits connected to such a contract such as training and a voice via employee participation (though the extent here is also dependent on what the respective organisation facilitates). It does, however, remain unclear to what extent workers active on WorkFlow have a voice in the

other organisations (the non-contract organisation) for which they need to work a minimum of 25% per year. Another example is the platform cooperativism movement. Platform cooperatives rely on democratic decision-making and shared ownership, which gives the workers a voice in how their platform is designed and operated. An example for the health and social care sector is UK-based equalcare.coop, which aims to connect care receivers with care providers and promises a decent wage for the workers without raising costs for the client. This leads to the promotion of fair and decent working conditions, including OSH aspects, since the working conditions are designed from the bottom up instead of being determined by investors' expectations of exponential growth and profit or economic-rent maximisation (OECD, 2023; Schmidt, 2017).

3.2.2 AM and digital surveillance

AM refers to the **use of algorithms to allocate, monitor and evaluate the behaviour and performance of digital platform workers**. Artificial intelligence (AI)-based worker management (AIWM) is an umbrella term referring to **worker management systems** that gather data on the workspace, the workers, the work they do and the (digital) tools they use for their work, which is then fed into an AI-based model that makes (semi-) automated decisions or provides decision-makers with information on worker management-related questions.

The rising use of AM/AIWM is a recent development in the workplace that presents opportunities but also risks for workers' OSH (EU-OSHA, 2022a). Such systems gather **data in real time**, implying **constant monitoring and surveillance** of the workers, which deteriorates their **mental health and wellbeing**. Although AM/AIWM can be used to identify OSH risks through monitoring systems that can detect instances of, for example, workplace bullying via speech analysis techniques (EU-OSHA, 2022a), to date such use has not often been observed in digital labour platforms. Research, rather, points to the opposite and suggests that AM/AIWM leads to **unsafe, unfair and discriminatory decisions** (EU-OSHA, 2022a). Such decisions can be difficult to contest since digital labour platforms generally do not have a point of contact for digital platform workers to reach out to in case of any issue.

Another issue is that AM/AIWM may **limit the flexibility that digital platform workers actually have**. An example of this issue in the health and social care sector is mentioned in the study by Lecher (2023). It addresses the situation of a platform nurse in the US who, while on her way to a shift in a long-term care facility (by car), missed a request from the platform app to confirm her attendance. This led to another nurse being assigned to 'her' shift and her receiving deduction points (in line with the attendance policy), which placed her on the verge of temporary suspension from the app. Though this example addresses on-location work, the use of an attendance policy is also applicable in the context of telework.

In the context of the health and social care sector, the use of AM can be particularly problematic considering the **vulnerability** of both the digital platform workers (care providers), who often come from minority groups, and the care receivers. AM can increase the speed of task execution, for example when workers are rated and ranked according to the number of tasks they can perform in a certain period of time. This can be detrimental for the quality of the care and the contact between care provider and care receiver. Intrusive worker monitoring systems, for example tools that can infer an individual's mood from their facial expressions, body language or speech patterns, can make workers feel eerie and uncomfortable, forcing them to behave unnaturally (EU-OSHA, 2022a), which in the health and social care sector is often counterproductive on the relation between the health and social care professional and the persons provided care to. Moreover, the data collection by digital labour platforms raises questions with regard to obligations regarding professional secrecy and data protection.

3.2.3 Working conditions, work environment and working times

One of the main reasons to join a digital labour platform is the **flexibility** digital platform work can provide in terms of when, how long and where to work, or in choosing the tasks to perform, and the **autonomy** in terms of how the work is executed (EIGE & Eurofound, 2023; Eurofound, 2018; ILO, 2021b). Such flexibility could be of particular interest for health and social care workers, for instance in trying to achieve a **better work–life balance**, and it can provide them with **more control over their workload**. The health and social care sector is among the top three sectors where workers report working '20 or fewer hours' and '21-34 hours', and it has few usual weekly hours of more than 40 hours, compared to other sectors (Eurofound, 2022). Nonetheless, the 2021 EWCTS data also reveal that the health and social care sector is among the top three sectors with poor fit between working hours and family and social commitments outside work. This may make digital platform work attractive to care providers. The importance of flexibility in choosing how much one works is also reflected in the creation of the platform WorkFlow described above.

In digital platform work, increased flexibility and autonomy often come with **lower levels of job and income security**, for example due to the digital labour platforms' response to fluctuations in demand. Also, health and social care workers choosing digital platform work and exiting more traditional forms of work often leave their former colleagues with higher workloads or with less favourable tasks or hours of work (e.g. weekend or night shifts). Moreover, digital platform workers may face having to be **available at all times** in order to earn sufficient pay, causing stress and reducing their flexibility and autonomy (EESC, 2020b; Digital Future Society, 2021). In some cases, though, digital platform workers are able to set their own price, but this is mostly professionals offering services that are in high demand (Eurofound, 2018). Some of the examples mentioned above that operate in the health and social care sector do allow workers to **determine their own pay**, or at least set **a minimum pay** that workers must receive (e.g. Helpper). This is critical, given that some occupations in the health and social care sector are low paid, especially domestic care providers. It also has to be noted that digital platform workers spend unpaid time looking for new assignments, following up with clients and so on (Eurofound, 2018).

Flexibility in where to work is especially relevant for digital platform workers working online as 'the where' becomes more flexible when the work is performed online. The notion of platforms connecting hospitals or residential care facilities with care providers, however, signals the potential for diversity in 'the where' in terms of the hospital(s) or residential care facilities one works for, also when work is performed on location. Diversity in work location can provide opportunities such as growing professionally, avoiding organisational politics and management issues, and meeting new people. However, switching between hospitals or residential care facilities also has it challenges, for example familiarising with new settings, equipment or practices, which can lead to and increase the OSH risks. In addition, frequent, short-term assignments across various hospitals or residential care facilities can be harmful for patients when the continuity of care is important (Tarrant, 2023).

Work in the health and social care sector is often conducted at high speeds under severe time pressure, but there is also little room to change the speed of work. This combination creates a demanding work context characterised by a **higher work intensity**. This issue already existed prior to the COVID-19 crisis, due to the ageing population and labour shortages, but it worsened during and after the pandemic as the number of patients increased while the labour shortages grew as staff became sick or decided to leave the sector for other jobs with better conditions. In situations where digital platform workers do not have to deal with hindering platform mechanisms (e.g. limited AM) and are less faced with pressures related to organisational choices of hospitals or residential care facilities, they potentially experience a lower work intensity level. An example of such a positive situation is that of a 'temporary doctor-for-hire' in the US who stated that as a contractor he 'avoids much of the bureaucratic pressures and productivity metrics that many hospital faculty doctors face' (Tarrant, 2023). But an improvement of the work intensity level is not always guaranteed. For example, a nurse working through a digital labour platform indicated that she was confronted with having to work a shift at a long-term care facility completely on her own (i.e. the only nurse) while having to care for 40 patients (Lecher, 2023). This latter example demonstrates just how severe labour shortages in the health and social care sector are. Digital platform work, however, will not help address these issues if it only implies a shift from the workforce working in traditional settings through digital labour platforms. This is likely the case for certified professionals. It could help tackle some of the shortages if the conditions offered by digital labour platforms are such that they make health and social care work more attractive and attainable for individuals who previously had not considered doing such work. The Belgian platform Helpper is one such example, as it aims to ensure good working conditions and a sufficiently high pay for care providers, good quality care for care receivers, and a strong embeddedness in the local community (matching neighbours), while also ensuring collaboration with key actors such as health insurance funds, doctors and so on. It, thus, also remains important to improve the work environment and working conditions for digital platform workers. One way to achieve this is to offer clients more reliable information about the working conditions of digital platform workers. Schmidt (2017), for instance, proposes to work with (warning) labels similar to what is currently done with fair trade labels and warning signs on alcohol and gambling products. Adopting such labels could incentivise clients to stay away from exploitative platforms. This could be relevant for health and social care work in particular, where digital platform workers tend to be vulnerable and ensuring high-quality care provision is key.

3.2.4 Discrimination, harassment and unfair treatment

As indicated above, workers in the health and social care sector risk being exposed to **third-party** harassment and violence caused by patients, patients' family members or other bystanders, more so than workers in other sectors (Eurofound, 2022). This risk is particularly present in situations where health and social care workers work alone and outside normal working hours, handle medication, exercise authority, or work with individuals

who are stressed, emotionally or mentally unstable, or under the influence of substances. Women in the health and social care sector report being more exposed to intimidation, verbal abuse, violence and discrimination than men (Eurofound, 2022; EU-OSHA, 2023). Aside from exposure to third-party harassment and violence, health and social care workers risk being confronted with adverse social behaviours by **co-workers**. The prevalence of such risks correlates with high workloads, pressure placed on workers, high stress levels and understaffing. According to 2022 OSH Pulse survey data, harassment and bullying from co-workers stands at 10% for health and care workers, compared to 7% for all sectors.

As discussed in previous EU-OSHA (2023) research on digital platform work, women, migrants, and persons with a disability, chronic illness or condition are more likely to face discrimination, harassment and unfair treatment in the labour market, and there is evidence of discrimination in digital platform work targeting these groups due to the use of AM, reviewing systems and the way both are set up as well. While digital platform work can help to escape from discrimination, unfair treatment or harassment, these may be even more widespread in digital platform work, as existing inequalities or social norms are reinforced (EU-OSHA, 2023). The use of digital technologies creates a risk of exposure to online bullying and harassment. In the health and social care sector, tasks are often performed inside care receivers' homes, which may be an unsafe environment that is less monitored than conventional workplaces. In such cases, female workers in particular may be subject to gender-based violence and sexual harassment.

In many cases, digital platform workers depend on clients to get tasks assigned, and some digital labour platforms obligate workers to disclose personal information on their account, and some even encourage workers to link their profile on the platform with their social media account(s) (Eurofound, 2018). Having a profile that is as complete as possible is also important to gain the trust of potential clients. This applies in particular in the health and social care sector, given the sensitive nature of the work and the vulnerable position of the client. However, as a result, clients can often easily choose a worker based on ethnicity or gender or discriminate in other ways.

Finally, digital platform workers may not be willing or able to report discrimination, harassment and unfair treatment out of shame, out of fear of not being assigned new tasks by the platform or client, or because platforms do not have adequate reporting mechanisms or procedures in place. While working with or through an intermediary can help to ensure better monitoring and more control of workplaces and work situations where violence and abuse are prevalent, in the case of digital platform work this may not hold for this reason. The involvement of other actors in the health and social care ecosystem could help alleviate this issue.

4 Policies and practices concerning OSH, digital platform work, and health and social care

4.1 OSH-specific policies and practices

Article 153 of the Treaty on the Functioning of the European Union gives the EU the authority to adopt directives in the field of safety and health at work. Directive 89/391 EEC, the **OSH Framework Directive**, has a wide scope of application. The OSH Framework Directive is the basis for common principles and minimum standards across the EU. It focuses on establishing a risk-prevention culture and lays down employers' obligations on: (i) risk assessments; (ii) preventive measures; (iii) providing OSH information to workers; (iv) training; (v) consultation; and (vi) balanced participation. These obligations apply across all sectors and professions and to both public and private employers. Together with other directives (so-called Individual Directives or daughter directives), which focus on specific aspects of safety and health at work, these are the fundamentals of European safety and health legislation. At present, the EU OSH legislative framework consists of the OSH Framework Directive and 24 Individual Directives. Specific directives address particular risks, groups or settings (European Commission, 2021).

At present, the EU OSH legislative framework falls short of being applicable or applied to a vast number of digital platform workers, as digital platform workers are usually classified as self-employed contractors and the OSH framework in most countries is only applicable to dependent employment relationships. Nevertheless, the EU Member States are free to adopt stricter rules for the protection of workers when transposing EU directives into national law. As a result of a growing number of incidents concerning the safety and health of digital platform workers and the subsequent rising risks and costs for workers and for society at large, a number of EU Member States (e.g. Belgium, Spain, France, Italy, see EU-OSHA, 2022b) have tried to legislate in the field of OSH for digital platform work. Yet, the number of legislative initiatives is limited, as is their effectiveness, as discussed below.

In 2021, the European Commission announced the **EU Strategic Framework on Health and Safety at Work 2021-2027**, which focuses on three objectives: (i) anticipating and managing change in the new world of work brought about by the green, digital and demographic transitions; (ii) improving prevention of workplace accidents and illnesses; and (iii) increasing preparedness for any potential future health crises (European Commission, 2021). The effective implementation of this strategic framework at EU, national, sectoral and enterprise levels is pivotal to its success, as is ensuring an effective enforcement, social dialogue, funding, awareness raising, and data collection and exchange.

Although the new OSH Strategic Framework has many strongpoints, some stakeholders suggest points of improvement. For example, in its Opinion on the OSH Strategic Framework, the European Committee of the Regions stated that it should be in line with ILO Convention 190 on violence and harassment at work, which is of particular relevance to the health and social care sector. Furthermore, the pandemic not only showed how essential workers in health and social care are, but also to what levels they were at risk, and thus, the importance of effective compliance with applicable OSH rules and regulations,[8] while at the same time revealing the lack thereof for digital platform workers. In this respect, the position of the European Trade Union Confederation on the new Strategic Framework makes clear that OSH is a shared concern of all those involved, calling for a stronger social dialogue on OSH matters, and it further stresses the importance of compliance with the OSH regulatory framework and the need to exchange good practices (European Commission, 2021).

As part of the follow-up to the 2022 European Care Strategy and the 2023 Social Dialogue Initiative, the European Commission adopted on 10 July 2023 a decision establishing a **European Social Dialogue Committee for Social Services**.[9] It laid down provisions concerning the establishment, operation and representativeness of new sectoral committees, which are intended as central bodies for consultation, joint initiatives and negotiation. The organisations taking part in the committee are *Social Employers* and the *European Council of Regions and Municipalities* representing employers in social services, while the *European Federation of Public Service Unions* represents workers in the sector. In addition, *UNI-Europa* and the *European Confederation of Free Trade Unions* will also be part of the workers delegation to plenary meetings. The Committee's work programme discusses working conditions, job evolution, skills and the attractiveness of the social services sector, as well as the quality of service provision.

4.2 Digital platform work related policies and practices

Growing concerns about the working and employment conditions and OSH of digital platform workers eventually put digital platform work on the agenda of policymakers in several EU Member States and at EU level. In 2020, the Commission launched an initiative to address the challenges to labour protection posed by digital platform work. On 16 September 2021, the European Parliament voted a resolution on decent working conditions, rights and social protection for digital platform workers and new forms of employment linked to digital development. This was followed by a **proposal for a directive** to improve the working conditions of people working through digital labour platforms, published by the European Commission on 9 December 2021. Along with the proposed directive, draft guidelines on the application of EU competition law to collective agreements of self-employed workers without staff were published. These guidelines also apply to digital platform workers.

The proposed directive focuses on **three main concerns** regarding digital platform work: (i) the correct classification of the labour relationship between digital platform worker and digital labour platform; (ii) the needs to increase transparency in the use of AM, to ensure human monitoring and to give workers the right to challenge automated decisions; and (iii) better enforcement, transparency and traceability by imposing reporting obligations and encouraging the exchange of data. At the time of drafting this paper, the proposed directive is still under discussion in the European Parliament. The Council recently reached an agreement on the proposal.

However, since its publication, the proposal has been met with criticism. Some authors argue that if platforms are required to employ their workforce as employees, they will engage **subcontractors or employment agencies** that would assume this responsibility (Arets, 2022; Bertolini et al., 2022). Indeed, some digital labour platforms bet on a pervasive 'low cost' strategy to gain market dominance or a monopoly position ('winner takes all' strategy). Opponents of schemes that push digital platform workers into employee statuses often

[8] For an overview of collection of guidance documents, awareness-raising material and further links on the topic on OSH in times of the pandemic, see: https://osha.europa.eu/en/themes/covid-19-resources-workplace
[9] See: https://ec.europa.eu/social/main.jsp?langId=en&catId=89&furtherNews=yes&newsId=10630

argue that anyway the **most vulnerable are still excluded** (e.g. undocumented migrants) (Arets, 2022). Ponce Del Castillo (2021) further sees room for improvement of the proposal, in particular to make it **more coherent with the GDPR and the AI Act**, while Cefaliello (2023) discusses it in light of **OSH issues and requirements** and points out strongpoints and hiatuses.

Overall, the proposed directive is considered a major step forward as it directly addresses digital platform work and aims to improve the working conditions and occupational health and safety in digital platform work. Whether or not the legal presumption will be effective in dealing with bogus self-employment and thus with providing workers wrongly classified as self-employed with the rights of employees, and, most importantly for the health and social care sector with the protection offered by the OSH legal framework, still remains to be seen (also see Cefaliello, 2023). Although the version of the proposed directive that was agreed on in the Council does hold some strong points, not all EU Member States support the Council's agreement. Dissenting Member States argued that establishing a legal presumption without restrictions or derogations would in fact perpetuate the existing imbalances between digital labour platforms and digital platform workers. Nevertheless, Cefaliello (2023) points out that even if the presumption would apply, it does not guarantee an effective application of OSH protection in digital platform work for several reasons. One reason is that it does not secure effective workers' organisation, which is a key component of an effective OSH management system. Another challenge is the enforcement of OSH prevention and the fact that enforcement will depend on the intervention of labour inspectorates. With the experience of the pandemic in mind, the question could be raised whether the classification of the labour relation can still be upheld as the main and most important legal anchor point in triggering — or not — mandatory rules and regulations on OSH. Or, rather, whether a minimum set of mandatory rules and regulations on OSH should be applicable irrespective of the classification of the employment relationship, which could perhaps be a way forward in critical sectors like the health and social care sector.

5 Conclusions and takeaways

The health and social care sector is subject to several global trends, which all have a profound impact on the nature of work and the working and employment conditions in the sector, including OSH. Major restructuring, especially as a result of austerity policies implemented in light of the 2008 financial and economic crisis, has contributed to widening gaps between countries in terms of the employment prospects and working conditions, and incentivised the international mobility of workers. In many cases, workers are worse off. In the aftermath of the COVID-19 pandemic, the health and social care sector is once again at the forefront of the public and policy debates in Europe.

Regarding OSH, health and social care is a high-risk sector in which workers encounter a combination of physical and psychosocial risks, which reinforce each other. Examples include, but are not limited to, exposure to emotionally demanding situations, a high risk of being exposed to violence, discrimination and harassment, a high workload, work intensity and work pressure, exposure to biological and chemical risks, and musculoskeletal risks related to lifting loads. In case of regular employment in the sector, training — also on the job (e.g. to familiarise with workplace-specific procedures and practices) — teamwork and support by colleagues and employee representatives, OSH risk prevention strategies by care institutes and so on will all help to mediate such risks. Non-standard work, however, is prevalent in the sector.

The health and social care sector has been one of the frontrunners regarding digitalisation, and more recently the introduction of digital labour platforms. Digital labour platform workers face a combination of risks that are inherently associated with the activities performed in and risks inherent to platform work, of which many relate to the use of AM. However, AM and the 'platformisation' of work are no longer unique to digital labour platforms, but also increasingly common in traditional work contexts, notably in the health and social care sector. In such cases, existing OSH risks are aggravated, and new OSH risks emerge, while at the same time attention to OSH risks seems to decline and efforts to prevent and manage them are limited in the context of digital platform work in the health and social care sector. While digital platform work can bring jobs out of informality, there seems to be little evidence that supports this, while monitoring and enforcement of compliance with OSH regulations is difficult for several reasons (e.g. digital platform work may fall outside of the scope of labour inspectorates, the OSH legal framework may not apply in case digital platform workers are self-employed, etc.). Digital platform work in health and social care encompasses a wide range of activities and diverse worker profiles.

Takeaway 1: Account for the vulnerability of care receivers and providers in digital platform work

Both the care receiver (the client) and the care provider (the digital platform worker) using digital labour platforms for health and social care purposes may find themselves in a vulnerable situation that presents severe risks to their safety and health. Depending on the specific case, the balance of power may tip in favour of the care receiver or provider, making both vulnerable to abuse, harassment and discrimination. This is especially the case when the care provision takes place inside the client's home, and the workers become invisible (e.g. in domestic care work, which tends to attract migrant women workers, who are particularly vulnerable to exploitation and have a high risk of being wrongly classified as self-employed). Digital labour platforms should, therefore, take measures to protect both the care receivers and the care providers using their facilities. One option is to allow others (e.g. a family member, doctor, social worker) besides the care receiver to manage their account and oversee the care provision. Moreover, prioritising the fight against discrimination, violence and harassment both against care receives and care providers, and ensuring that workers' voices are heard through direct and indirect forms of participation, are key.

Takeaway 2: Take measures to ensure the quality of the care provided

To ensure a sufficiently high quality of care, digital labour platforms could require proof of qualifications and previous experience to professional not covered by professional bodies (e.g. especially doctors or when medical or para-medical work activities are involved), and introduce an approach based on a recruitment interview, initial onboarding and training process, and regular follow-up over time. This also establishes the care provider as a professional and could help ensure they receive sufficient training and career prospects. An example that emerged from the literature to guarantee the quality of the care provision is a specific label or certificate of quality, launched by the government or a key player from the health and social care sector. Another approach is to make sure that the platforms themselves are well embedded in the health and social care ecosystem and can in that way benefit from knowledge exchange and collaboration with existing actors (e.g. health insurance funds, community health offices).

Takeaway 3: Prioritise the prevention and management of OSH risks in digital platform work

With the health and social care sector being a high-risk sector, the prevention and management of OSH risks is a priority among all stakeholders involved, such as policymakers, inspectorates, hospitals and care facilities, workers. This logic should also be adopted when health and social care services are offered through digital labour platforms, which usually lack an approach to OSH and push OSH-related risks, responsibilities and liabilities onto the digital platform worker whom they classify as self-employed. Moreover, while the pandemic has put OSH firmly back on top of the policy agenda, efforts to introduce policies targeting digital platform work, unfortunately, still appear to somewhat overlook OSH issues.

In the debate on tackling OSH risks in digital platform work, the focus is often on finding ways to ensure that digital platform workers are categorised as being in a dependent employment relationship with the platform, so that they would be covered by the EU and national OSH legislation. Digital labour platforms like WorkFlow could be considered a good practice, as WorkFlow offers professionals flexibility combined with job security via an employment contract and all the associated benefits, while allowing hospitals to efficiently allocate care providers where and when they are most needed. Such platforms demonstrate the potential benefits of using platform technology to allocate tasks without raising disadvantages for the digital platform workers, the care receivers and society at large. Besides such efforts, some voices argue to look beyond the employment status issue and urge to keep working on raising the awareness of platform workers, platforms and clients around OSH risks, and on improving the understanding of how to prevent and manage OSH risks, in a way that benefits all involved actors.

Takeaway 4: Use the opportunities for OSH risk prevention and management brought by digital technologies, while safeguarding workers' rights and wellbeing

The use of digital technology could help protect digital platform workers, for example by tracking their location or monitoring their stress level or work environment. This angle, however, is less discussed in the academic and grey literature. It could be further explored how technology can be used towards this goal, while at the same time ensuring that workers' rights and their overall wellbeing are protected and promoted. More support for digital platform workers is expected to translate into better care.

Abbreviations

AM	Algorithmic management
AIWM	Artificial intelligence (AI)-based worker management
Cedefop	European Centre for the Development of Vocational Training
EESC	European Economic and Social Committee
ESENER 2019	Third European Survey of Enterprises on New and Emerging Risks
EU	European Union
EU-OSHA	European Agency for Safety and Health at Work
Eurofound	European Foundation for the Improvement of Living and Working Conditions
EWCS	European Working Conditions Survey
EWC(t)S	European Working Conditions Telephone Survey
GDPR	General Data Protection Regulation
HIS	Hospital information systems
ICT	Information and communication technology
ILO	International Labour Organisation
ISIC	International Standard Industrial Classification of All Economic Activities
OSH	Occupational safety and health

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