

2 Work and wages in long-term care today

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This chapter discusses LTC work today. It starts by looking into the tasks LTC workers do, and the skills and level of education that LTC work requires, before showing descriptive statistics of LTC employment, including recent trends related to demographic changes and to the composition of LTC between residential and home-based care. The chapter then focuses on wages. New results are presented to shed light on the determinants of individual hourly wages of LTC workers. Finally, factors that may explain low wages of LTC jobs beyond the factors identified in the quantitative analysis are discussed.

Introduction

Describing the content of long-term care (LTC) work and job requirements is a prerequisite to analysing the challenges faced by LTC workers. These workers face multiple difficulties including low wages, strenuous working conditions and low recognition for their work. Women make up a vast majority of LTC workers while the share of workers with a migration background is above average, with both groups often occupying disadvantaged positions in the labour market in general. Difficulties faced by LTC workers have contributed to difficulties in attracting enough workers to meet the growing demand arising from population ageing.

Chapter 2 discusses LTC work today. It starts by looking into the tasks LTC workers do, and the skills and level of education that LTC work requires, before showing descriptive statistics of LTC employment, including recent trends related to demographic changes and to the composition of LTC between residential and home-based care.

The chapter then focuses on wages. New results are presented to shed light on the determinants of individual hourly wages of LTC workers. While individual characteristics, in terms of age, education and tenure, help explain relatively low wages among LTC workers, gender differences in hourly wages play a significant role. Overall, the LTC sector is estimated to pay wages that are lower than in the hospital sector for similar workers and similar jobs. Finally, factors that may explain low wages of LTC jobs beyond the factors identified in the quantitative analysis are discussed.

The subsequent chapters in this report focus on other aspects of LTC work. Chapter 3 analyses working conditions beyond wages and discusses collective bargaining coverage in LTC. Chapter 4 looks into composition of the LTC workforce in terms of both gender and migration background, and how LTC workers are perceived by society. Chapter 5 analyses current and future labour shortages of LTC workers.

Key findings

- LTC jobs require a unique combination of communication and physical abilities. Consistently across countries, job offers for personal care workers often demand communication, teamwork and time-management skills.
- LTC workers make up 1.9% of total employment in OECD countries, ranging from less than 0.3% in Greece, Lithuania and Poland to more than 4.0% in Norway and Sweden. Huge differences across countries may reflect differences in the development of the LTC sector, the scope of family care, the extent of LTC provision by hospitals and life expectancy, among others.
- Personal care workers make up 78% of LTC workers on average in the OECD and nurses 22%.
- Many countries have been pursuing a “deinstitutionalisation” strategy of LTC by promoting home-based care solutions over institution-based care. As a result, the number of LTC beds in institutions has not kept pace with the number of older people on average across countries during the last decade, by contrast to the period before when it increased much faster.
- Personal care workers employed in residential and non-residential care earn around 70% of the economy-wide average hourly wage. One-quarter of personal care workers in the LTC sector and in hospitals earn at most 53% and 60%, respectively, of the average wage in the total economy.
- Regarding occupations, personal care workers have hourly wages that are 12% lower than the average across occupations, once age, education, gender, sector, etc. are taken into account.
- Regarding sectors, the LTC sector is estimated to pay to workers with similar characteristics 4% less than the average across all sectors. The LTC sector is estimated to pay wages that are about 8% lower than the hospital sector for similar workers and similar jobs.
- Occupational and sectoral effects combine into low wages for personal care workers in the LTC sector.

- When both workers' and sectoral characteristics are controlled for, i.e. for the same age, number of years of education, tenure, etc., personal care workers still earn about 15% less than nurse associates in the LTC sector, compared with 26% less based on raw data. This means that less than half of the observed hourly-wage difference between personal care workers and nurse associates is explained by individual (and firm) differences.
- The gender hourly wage difference among LTC workers in similar jobs and with similar characteristics is significant and estimated at 7.6% (to the detriment of women). This is substantially less than in the whole economy, where the female "penalty" is estimated at 14.2%. Yet, in a sector where women represent more than 85% of employment, they still earn less than men doing the same job and having otherwise similar characteristics.
- In theory, labour shortages in the LTC sector should drive up wages, especially given difficult working conditions. However, the causality may also work the other way, with low wages fuelling labour shortages. Limited public financing and insufficient income of LTC recipients contribute to low wages and may prevent market forces to raise wages, boost labour supply and eliminate shortages. Low wages in LTC might also result from low market power of LTC workers, low rents to be shared between companies and employees and from the "devaluation of women's work" hypothesis shaping cultural norms in care jobs, which has received mixed evidence.

2.1. What is long-term care work?

Long-term care (LTC) workers provide care to LTC recipients at home or in LTC institutions but not in hospitals; provided care relates to both helping with activities of daily living and assisting to live independently. Although LTC may be provided to people at all ages, this analysis focuses on LTC provided to older people (see Chapter 5 for age structures of care recipients). Care provided in hospitals is classified as healthcare, even if provided to LTC recipients. According to the OECD definition, LTC workers comprise two professional categories: personal care workers, including nurse aids and care assistants, and nurses, including both nurse associates and nurse professionals. Other professional categories, e.g. doctors or social workers, are not included in the LTC workforce definition, as they do not directly provide assistance in activities of daily living. Informal caregivers who provide care to family member, neighbours or friends are excluded from the category of LTC workers unless they are formally employed by the care recipient. LTC workers can come from the healthcare or the social-care branches (OECD, 2020^[1]). LTC services can be publicly or privately financed. Based on replies to the questionnaire sent to countries for this report, the national definitions of LTC workers vary across countries and they are often broader than the OECD definition because they account for workers for whom providing care is not the main task. In particular social workers or rehabilitation specialists may be included in national definitions, e.g. in Austria, Canada, Denmark, France, Germany, Ireland, Latvia, Lithuania, the Netherlands, Norway, Poland, Portugal, the United Kingdom and the United States. This section heavily builds on previous work on defining and characterising LTC workers (OECD, 2020^[1]).

2.1.1. What do long-term care workers do?

Personal care workers

The activities of personal care workers can cover four main functions: providing assistance with activities of daily living (ADL) such as getting dressed and feeding; helping with instrumental activities of daily living (IADL) such as cooking; communicating with care recipients and their families; and, performing healthcare monitoring. In most countries, LTC workers are central to prevent people's loss of autonomy. The most common tasks include maintaining hygiene standards, monitoring health status and how individuals respond to care, transporting them from home to outside places and providing psychological support.

Based on previous work by the OECD, personal care workers' main role across OECD countries has been identified as providing basic care. The six most common tasks are centred on assisting with ADL and IADL. In most countries, this includes positioning, lifting and turning care recipients, transporting them (via wheelchairs, movable beds and/or motor vehicles) and assisting care recipients with personal hygiene, feeding and dressing. Another aspect of the job mostly involves maintaining environmental hygiene standards (e.g. changing bed linen, washing, cleaning), providing assistance with the planning, purchasing, preparing or serving of meals to meet nutritional requirements and prescribed diets, and accompanying care recipients on errands.

In the United States, the Occupation Information Network (ONET) database provides a detailed description of occupations, as well as of the importance of tasks within occupations, based on surveys of workers (Handel, 2016^[2]). These occupational characteristics are useful for analysing workers also in other countries (Goos, Manning and Salomons, 2009^[3]). The importance of a task is assessed on a 1-5 scale, from 1 being not important, 3 being important to 5 being extremely important.

There are three detailed categories of personal care workers in the ONET database: personal care aides, home health aides and nursing assistants. Among 59 tasks that scored at least 3, 32 cover assisting daily living. Other important tasks of personal care workers include administration such as maintaining records of care recipients, documenting care recipients' behaviour, physical symptoms and care needs; planning future services and administering prescribed medicine and medical treatment, monitoring vital signs, providing emotional support to care recipients and families.

When it comes to the range of tasks that personal care workers do, countries can be sorted into two broad groups (OECD, 2020^[1]). A few countries seem to strictly limit the range of personal care workers' tasks. This is the case in Norway and Israel, where tasks mostly involve ADL support provision and verbal communication. Preparing care recipients for examination or treatment is a less common task that personal care workers provide; in some countries, e.g. Estonia, Lithuania, Norway and the United States, they are not allowed to administer medications. Meanwhile, a larger group of countries (including Belgium, Canada, the Czech Republic Japan, Korea and Sweden) report that personal care workers perform a broader set of tasks and seem to have developed a model of LTC provision where they play a more comprehensive role. In Sweden, for instance, they commonly provide medications.¹ In Korea and Japan, they may even act as case managers.

Nurses

OECD (2020^[1]) shows that nurses in LTC are in charge of four main functions: healthcare provision, including medication administration, and health status monitoring, which are the main tasks, as well as care co-ordination and communication with families. Nurses often have to implement care plans and supervise or evaluate the work provided by other staff. Reporting tasks usually require communication with physicians. These functions demand soft skills, such as being competent in social and interpersonal relations. They also require specific geriatric care expertise, such as understanding the LTC system as a whole and being able to identify the relevant service providers. In many countries, nurses co-ordinate care provided to older people.

An analysis of tasks in the ONET database (of the United States) confirms that nurses play substantially different roles than personal care workers in delivering healthcare and LTC. Most tasks undertaken by nurses² relate to assisting in medical treatments and only 3 out of their 50 important tasks (which scored 3 or more) refer to assisting with daily living. The importance of providing medical treatment or personal care in private home setting³ was assessed at 4.4, helping care recipients with bathing etc. at 4.1 and cleaning rooms and making beds at 3.7 compared to the highest ranked task of recording care recipients' medical information at a score of 4.7.

There are two main take-aways from the ranking of nurses' tasks when providing LTC (OECD, 2020^[1]). First, countries differ in terms of autonomy to provide medical treatments granted to nurses. While healthcare provision is also a key aspect of their job, it mostly involves cleaning wounds and applying surgical dressings and bandages. In Lithuania, wound care is one of the main healthcare tasks provided

by nurses, while Korean nurses are not supposed to perform this specific task. Provision of treatment and healthcare is more frequent when included in a care plan that the nurse has to follow. Most of the role then involves the management of multiple comorbidities.

Second, nurses play a central role in care co-ordination in most OECD countries, often bridging health and social care provisions. Supervising and co-ordinating care recipients' care along with other healthcare and social care professionals is the most frequent co-ordination task provided by nurses (it is found in 19 countries). Their activities are typically associated with the updating, monitoring and record keeping of care recipients' health status; co-ordination and supervision of care recipients' care plans; and interactions with care recipients, family caregivers, care providers and healthcare professionals. Care following hospital discharge needs specific monitoring and communication with hospital teams.

2.1.2. How to become an LTC worker?

Educational levels and qualification requirements

The International Standard Classification of Occupations (ISCO) groups occupations into groups of similar complexity and skill requirements. For personal care workers, in general across countries lower-secondary education is required, e.g. in the form of specialised or on-the-job training (Table 2.1). Personal care workers require higher qualifications than for example cleaners and helpers. Nurse associates belong to an occupational group that requires even higher level of skills, associated with completing the first level of tertiary education of up to 3 years. Nurse professionals belong to the group of occupations with the highest level of skill requirements, which require more than 3 years of higher education. Similar to nurses, social workers and psychotherapists, who are not included in the LTC workforce, belong to skill Level 3 or 4, depending on scope of their tasks.

Table 2.1. Qualification requirements and relevant tasks of selected occupations

Skill level and education requirements	ISCO occupation name (code)	Relevant tasks	Considered as LTC workers
4 – complex problem solving and decision making, 3-6 years of higher education generally required	Nurse Professionals (222)	Providing care to patients, assuming responsibility for planning and management of care, supervision of other care workers	yes*
	Physiotherapists (2264)	Assessing, planning and implementing rehabilitation programs and therapies	no
	Social Work and Counselling Professions (2635)	Assisting clients to develop skills needed to respond to issues arising from disability	no
3 – complex practical and technical tasks, 1-3 years of higher education generally required	Nurse Associates (322)	Providing basic care for people who are physically or mentally sick; working under supervision of other health professionals.	yes*
	Physiotherapy Technicians and Assistants (3255)	Providing physical therapeutically treatments to patients, following rehabilitative plans established by other health professionals	no
	Social Work Associates (3412)	Administering and implementing social assistance programs and assist client to deal with personal and social problems, including accessing and identifying relevant care programs	no
2 – tasks related to manipulating, ordering and storage of information, and operating machinery; first stage of secondary education generally required	Personal Care Workers (532)	Providing personal care and assistance with mobility and activities of daily living	yes*
1 – simple and routine tasks, primary education required	Domestic cleaners and helpers (9111)	Preparing food, serving meals, purchasing household supplies and taking other domestic duties	no

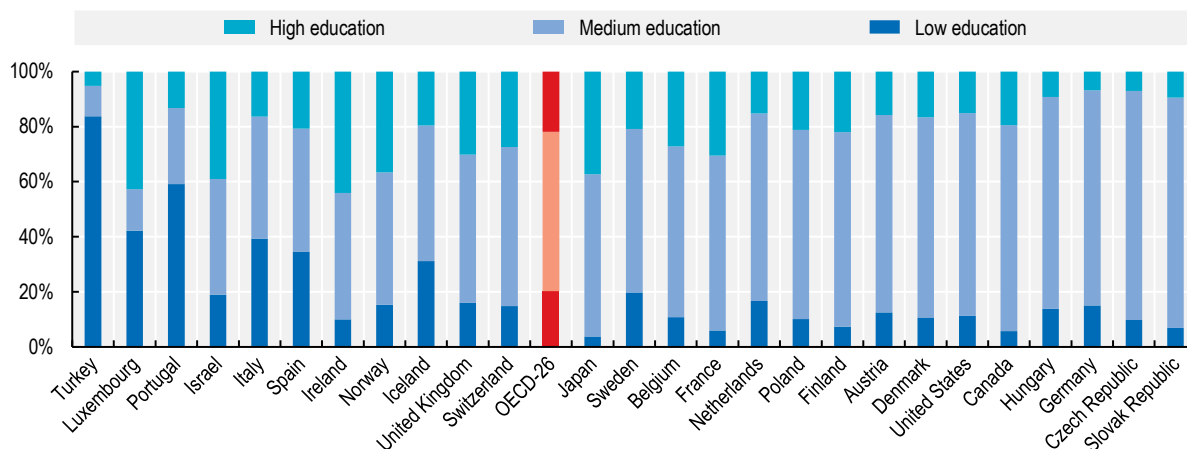
Note: Workers in these occupations are considered LTC workers if they work in the LTC sector, as discussed below.

Source: OECD based on ILO (2012^[4]), International Standard Classification of Occupations.

On average across OECD countries, 58% of LTC workers have a medium level of education (Figure 2.1), while 20% have not attained medium education and 22% have a high education level. In Türkiye and Portugal, more than half of LTC workers have a low education level while it is the case for less than 10% in Canada, the Czech Republic, Finland, France Ireland, Japan and the Slovak Republic. Highly educated workers constitute at least one-third of long-term care workers in Ireland, Japan, Luxembourg and Norway.

Figure 2.1. Most LTC workers have a medium level of education

LTC workers by education level, 2019 or nearest year



Note: Low education corresponds to a lower secondary education (international standard classification of education (ISCED) 0-2), medium education to an upper secondary education or a post-secondary non-tertiary education – vocational schools (ISCED 3-4), and high education to tertiary level of education – university (ISCED 5-8). Countries are sorted based on the share of workers with medium education.

Source: EU-LFS; ASEC-CPS for the United States; Census for Canada; LFS for Israel; Survey on Long-term Care Workers for Japan.

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Billington and Foldnes (2021^[5]) propose a complexity measure of occupations based on the description of the occupations' tasks in the U.S. Dictionary of Occupational Titles ONET. The occupational complexity distinguishes: analysing data; interacting with people; and, operating things with precision, assessed as low, medium and high. Personal care workers jobs were assigned a low level of complexity in all three dimensions, similar to e.g. sales workers, waiter and bartenders, general secretaries, tellers, money collectors and related clerks and elementary occupations. Nurse professionals were classified as medium complexity for data and things, and high for people, while nurse associates also as medium for data and things, and low for people.

Minimum qualification requirements offer the guarantee that staff have sufficient knowledge, skills and competencies to provide care to older people. Less than half of the countries surveyed in OECD (2020^[11]) – Austria, Belgium, Canada (Ontario), Germany, Korea, Slovenia and the United States – require personal care workers to pass or hold a licence or a certification showing that they have the basic competencies and skills to work in healthcare and social services for older people.⁴ Also, less than half of the surveyed countries require personal care workers to hold a minimum education level. Among those that do, it varies from vocational training (Hungary, Luxembourg, the Netherlands and Latvia) to a high school diploma (Belgium and Sweden) or a technical degree after high school (Canada and Estonia). Conversely, nurses are required to hold high education levels (such as a bachelor's degree) in half of countries.

Moreover, many countries require initial training programmes for personal care workers but there is quite a lot of heterogeneity in the requirements (OECD, 2020^[11]). Training rules and organisation can differ according

to the LTC setting (home-based, institution-based) or job title (e.g. nurse aide, social carer). Training often targets institution-based personal care workers, and training participation is often not mandatory for home-based workers. This is the case for example in the United States, where entry credentials are often not required from personal care workers delivering home care while certificates often are in nursing homes.

OECD (2020^[1]) points that while the bulk of LTC work by personal care workers involves ADL support (such as helping to dress, bath and cook) and does not require a high level of training, some basic tasks (such as administering food) can become complex and require training when disabled older people have severe conditions (such as dementia).

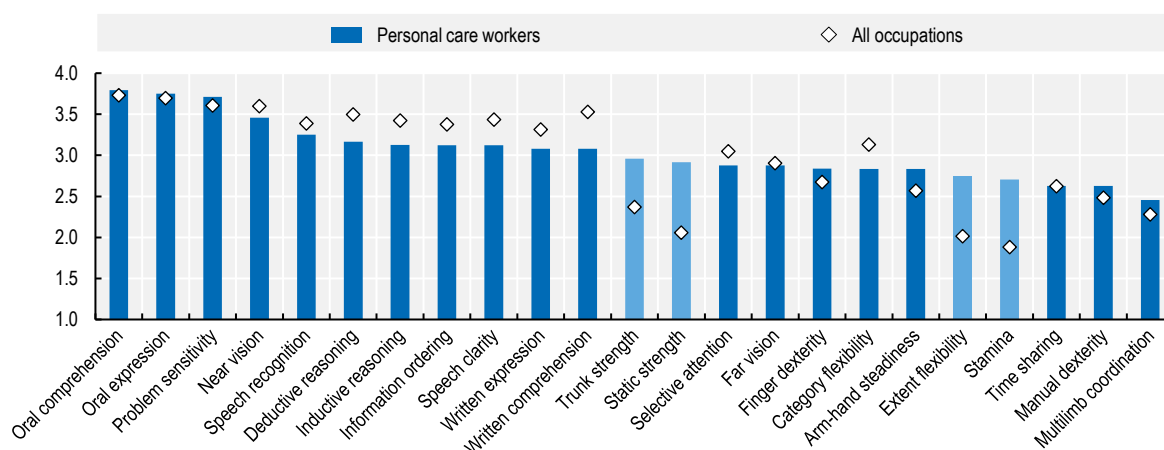
Abilities and skills needed by personal care workers

The ONET database also provides an assessment of the importance of various abilities and of various skills needed for detailed occupations. Abilities are enduring attributes of an individual while skills refer to developed capabilities, typically in the process of learning or training.

The combination of communication and physical abilities is very specific to care jobs. For personal care workers,⁵ the top three abilities that score at least 3.6 on the 5-level importance scale are oral expression, oral comprehension and the recognition of the existence of problems (problem sensitivity) (Figure 2.2). However, these specific skills are assessed with a similar importance in many other occupations, indicating that they are not exceptionally important for personal care workers. Some abilities related to intellectual problem solving, such as deductive and inductive reasoning, information ordering, written comprehension score above 3 among personal care workers, but below the average score for these tasks in other occupations on average. Physical abilities (trunk strength, static strength, extent flexibility and stamina) score between 2.5 and 3.0, hence substantially less than communication skills, but substantially more than the average overall across occupations.

Figure 2.2. Most important abilities for personal care workers

Abilities assessed on the 1-5 importance scale



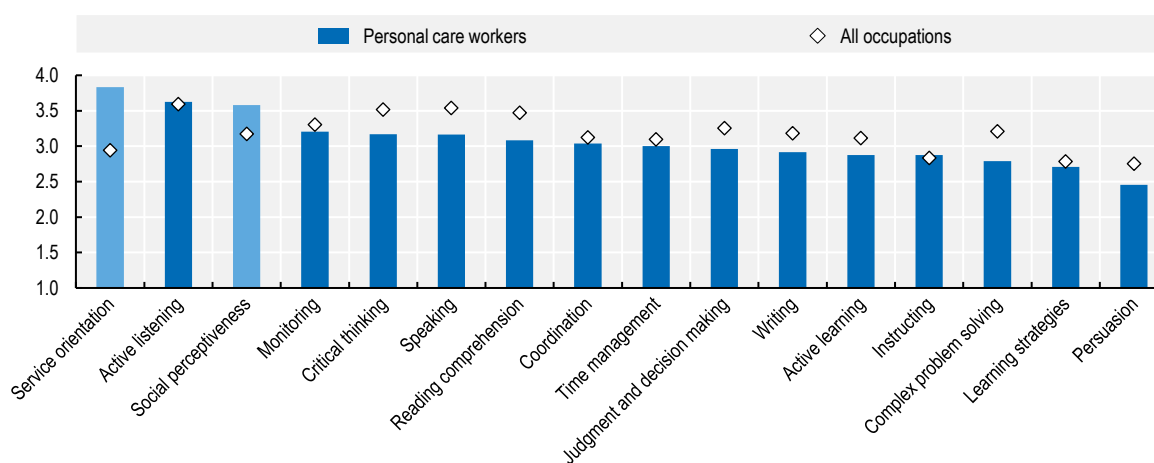
Note: The figure presents abilities which importance for personal care workers was assessed as at least 2.5 on average on the 1-5 scale. The average for all occupations is unweighted. Personal care workers is the average of personal care aides, home health aides and nursing assistants. Light blue colour highlights the abilities in which personal care workers scored substantially more than the average across all occupations.

Source: ONET, retrieved 10 September 2022.

As for skills, communication skills are assessed to be of the highest importance for personal care workers. The top three, that scored at least 3.6 on the 1-5 scale, are: actively looking for ways to help people (service orientation); giving full attention to what other people are saying (active listening); and, being aware of others' reactions and understanding why they react as they do (social perceptiveness) (Figure 2.3). Additionally, service orientation and social perceptiveness are two skills in which personal care work scores substantially more than the average across all occupations. Some management skills, such as monitoring, co-ordination, time management are also important for personal care workers, as they score more than 3, which is slightly less than among all occupations on average. OECD (2020^[1]) notices that minimum training requirements for personal care workers vary a lot among countries, and in many of them training requirements might not cover communication skills at the level needed by the job.

Figure 2.3. Most important skills for personal care workers

Skills assessed on the 1-5 importance scale



Note: The figure presents skills which importance for personal care workers was assessed at least 2.5 on the 1-5 scale. The average for all occupations is unweighted. Personal care workers is the average of personal care aides, home health aides and nursing assistants. Light blue colour highlights the skills in which personal care workers scored substantially more than the average across all occupations.

Source: ONET, retrieved 10 September 2022.

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The Lightcast database of online job offerings allows for the analysis of requirements in millions of actual job offers in many countries (Cammeraat and Squicciarini, 2021^[6]). As it is updated almost in real time, these data can detect changes in job requirements much faster than ONET. Job offers for personal care workers often demand communication, teamwork and time-management skills, consistently across countries (Table 2.2). Additionally, skill requirement for personal care workers seem to differ substantially across countries and assertiveness appears among the three top skills in Austria, Denmark and Sweden while readiness to adapt to changes is requested in Finland, Germany, Luxembourg and the Netherlands.

Table 2.2. Communication and time management skills are frequently listed in job offers for personal care workers in OECD countries

Country	Up to 3 top skills most frequently appearing in job offers for personal care workers
Austria	Work in teams, assertiveness, communication
Australia	Building effective relationships, meal preparation, medication administration
Belgium	Show responsibility, work independently, manage time
Canada	Communication skills, caregiving, bathing
Germany	Adapt to change, assist customers, provide customer follow-up
Denmark	Provide information, assertiveness, show responsibility
Estonia	Assist customers, communicate with customers,
Spain	Person-centred care, work with nursing staff, communicate with nursing staff
Finland	Adapt to change, work in teams, outdoor activities
France	Think proactively, work in teams, provide customer follow-up
Ireland	Person-centred care, nursing principles, communicate with nursing staff
Italy	Assist customers, work in teams, show responsibility
Luxembourg	Adapt to change
Netherlands	Work in teams, adapt to change, problem solving
New Zealand	Caregiving, care planning, travel arrangements
Poland	Follow work schedule, small talk
Portugal	Communication, provide information, demonstrate enthusiasm
Sweden	Work in teams, assertiveness, manage time
Slovenia	Work in teams, assisting in planning nursing care, manage time
United Kingdom	Communication skills, teamwork, working with patient
United States	Communication skills, caregiving, ADLs assistance

Note: Top three skills by countries, based on available job offers from all available years 2018-21 for most countries, but for 2012-21 for Australia, Canada, New Zealand, the United Kingdom and the United States. Due to small sample size, only two skills are reported in the Poland and one in Luxembourg.

Source: OECD based on Lightcast Data.

Competency requirements and future challenges

It is not clear whether the levels of competency requirements are always sufficient to ensure the good quality of LTC provision, including care recipients' safety. The absence of minimum education requirements may not be a problem across all staff, as the bulk of personal care workers' roles involve low-skilled tasks. However, the absence of minimum qualifications could be of concern when workers are allowed to perform specific tasks that require a higher level of expertise and knowledge.

OECD (2020^[11]) highlights that several factors may lead to an increase in the importance of some of these competencies in the future, potentially raising training requirement levels. LTC provision may become more complex as older people's disabilities may increase with population ageing, while substantial dementia training is rarely included in the minimum training requirements for care staff. Moreover, recent evidence suggests the need to raise workers' awareness about basic issues that can have dramatic consequences for older people with most complex LTC needs. Also, the broader use of some devices, such as the use of oxygen delivery equipment, sensors alarming in the case of a fall, automatic blood pressure machines or hearing aid devices, can require more advanced skills and knowledge to guarantee their safety and/or effectiveness.

2.1.3. How many workers work at LTC jobs?

The number of LTC workers are identified by crossing occupational and sectoral classifications in sectoral or economy-wide surveys. Occupational classification alone does not allow discriminating between care workers working in healthcare and LTC while care economic sectors cover also non-LTC activities and

non-LTC workers. Box 2.1 discusses in detail how LTC workers are identified using international classifications of occupations and economic activities. Although respondents in employment surveys may not work in formal employment, undeclared workers are likely to be underrepresented in such survey data.

Box 2.1. Identification of LTC workers in international classification of occupations and economic activities

Occupations

International Standard Classification of Occupations (ISCO, 2008 edition) compiled by ILO (2012^[4]) identifies personal care workers (code 53) within a broader group of service and sales workers (code 5).⁶ The category 53 combines childcare workers and teachers' aides (code 531) and personal care workers in health services (code 532). Personal care workers in health services (532) includes nursing aides, home care aides and care assistants.

Nurses are also considered LTC workers if they work in the LTC sector. ISCO classification distinguishes two categories of nurses: nurse professionals (code 222) and nurse associates (code 322). Nurse professionals belong to health professionals (code 22), which includes also doctors and veterinarians. Nurse professionals assume responsibility for planning, management of the care of patients and supervise other care workers; they work autonomously. Nurse associates belong to health associates (code 32) together with medical technicians and veterinary technicians, among others. Nurse associates provide nursing and personal care to people who are physically or mentally ill. They generally work under the supervision of other health professionals.

There are also some occupations, in which at least some tasks may be considered as part of LTC, but their identification might not be possible even with a 4-digit resolution. These are: among low-skill occupations, domestic cleaners and helpers (code 9111); among middle-skill occupations, physiotherapy technicians and assistants (code 3255) and social work associates (code 3412); and, among high-skill occupations, physiotherapists (code 2264), social work and counselling professions (code 2635).

Economic sectors

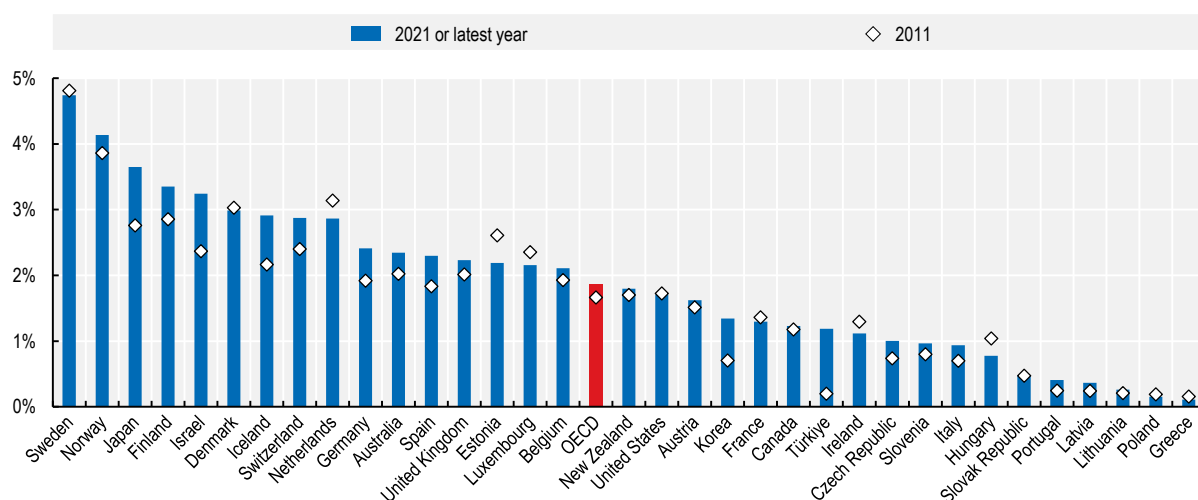
Economic activities are classified with ISIC classification (United Nations, 2008^[7]) in most OECD countries, with regional and country level equivalents such as NACE in European Union or NAICS in the United States.⁷ Human health and social work activities is part of non-market services. They include healthcare (code 86), residential care (code 87) and social work without accommodation (code 88). LTC activities are parts of the latter two categories. In particular, LTC activities include residential nursing care activities (code 871), residential care for the older people and disabled (code 873), and social work activities without accommodation for the older people and disabled (code 881). The following activities within sectors 87 and 88 are not part of LTC: residential care activities for mental retardation, mental health and substance abuse (code 872), other residential care activities (code 879) and other social work activities without accommodation (code 889). The latter two categories include some childcare activities. Yet, in many surveys only the two-digit classification is available. A precise definition of LTC workers compromises personal care workers in health services (532) and nurses (222 and 322) working in relevant care sectors: 871, 873 and 881.⁸ This precise definition is applied to the PIAAC (OECD Survey of Adult Skills) data while EU labour force survey (EU-LFS) and structure of earnings survey (EU-SES) identify sectors only at the two-digit accuracy.

LTC workers made 1.9% of total employment in OECD countries in 2021, ranging from less than 0.3% in Greece, Lithuania and Poland to more than 4% in Norway and Sweden (Figure 2.4). That share increased from 1.7% on average in 2011 as a result of growth in two-thirds of OECD countries. Among them, increases were larger than 0.5 percentage points in Iceland, Israel, Japan, Korea and Türkiye.

The huge differences across countries in the share of LTC workers reflect differences in several factors: the development of the LTC sector, the scope of informal family care, the extent of LTC provision by hospitals, total and healthy life expectancy among others. The differences in population structure across countries explain only a fraction of cross-country variations, as the number of LTC workers per older people also varies greatly.

Figure 2.4. The share of LTC workers in total employment is slowly increasing

Number of LTC workers as percentage of total employment



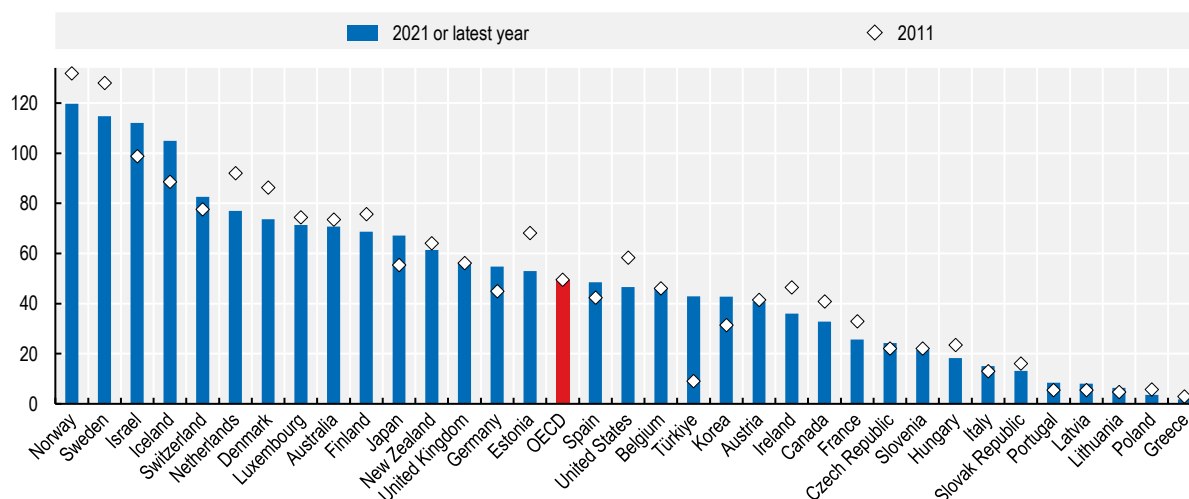
Note: LTC workers based on both the three-digit occupational classification and two-digit NACE classification. Data refer to 2020 for Australia, Canada, the Czech Republic, Estonia, Korea, Luxembourg, Norway, Sweden, Switzerland, Türkiye and the United States, and 2019 for Denmark, the Slovak Republic and the United Kingdom.

Source: OECD Health Statistics, EU-LFS and OECD Employment Database.

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There were 49 LTC workers per 1 000 people aged 65 or more on average in the OECD countries in 2021 (Figure 2.5), ranging from more than 100 in Iceland, Israel, Norway and Sweden to less than 10 in Greece, Latvia, Lithuania, Poland and Portugal. This average ratio has been basically stable over the last decade. This means that the number of LTC workers has increased in line with the number of older people due to population ageing.

Figure 2.5. Number of LTC workers per 1 000 people aged 65 or older has been stable on average



Note: LTC workers based on both the three-digit occupational classification and two-digit NACE classification. Data refer to 2020 for Australia, Canada, the Czech Republic, Estonia, Korea, Luxembourg, Norway, Sweden, Switzerland, Türkiye and the United States, and 2019 for Denmark, the Slovak Republic and the United Kingdom. A break in series for the Netherlands was reported for 2012 (OECD, 2020^[11]) and, thereby, data for 2013 were used. Due to potential break in series for Iceland, the 2013 data were used.

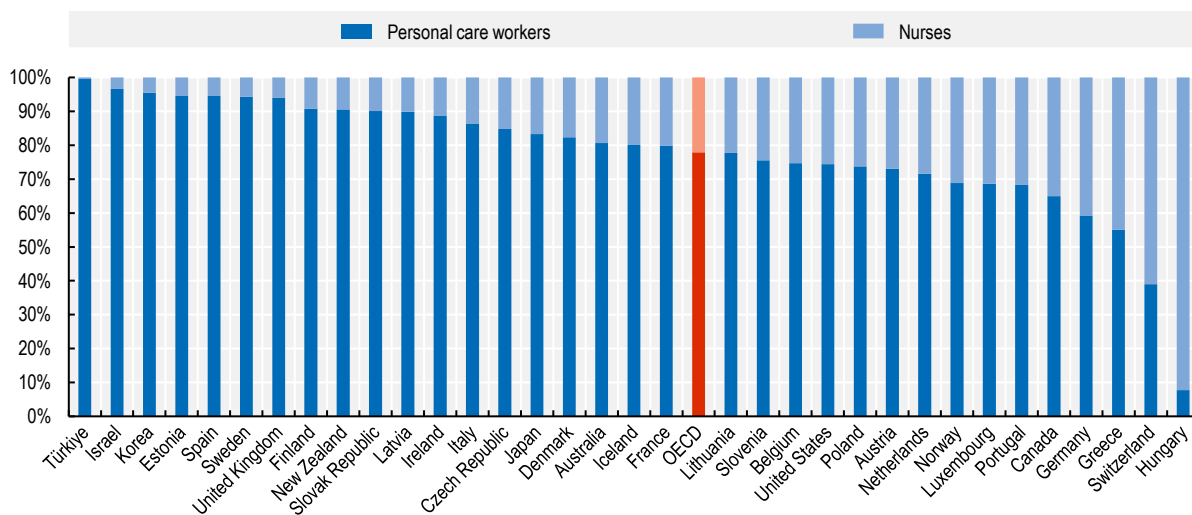
Source: OECD Health Statistics and EU-LFS.

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Personal care workers make 78% of LTC workers on average in the OECD and nurses constitute 22% (Figure 2.6). Only in Switzerland and Hungary do nurses constitute more than half of the LTC workers.⁹

Figure 2.6. Personal care workers make 78% of the LTC workforce

2021 or latest year



Note: The primary source of data is OECD Health statistics and EU-LFS data for remaining countries. LTC workers based on both the three-digit occupational classification and two-digit NACE classification.

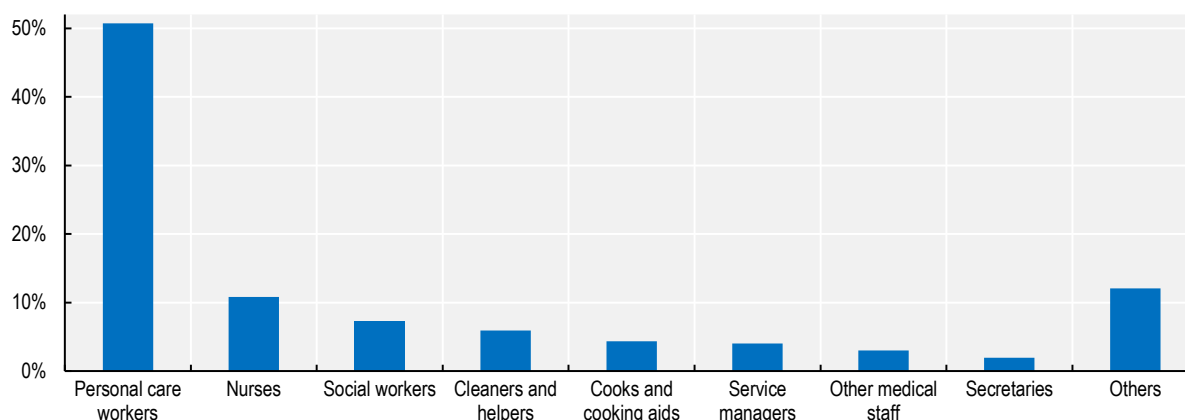
Source: OECD Health Statistics 2022 and EU-LFS.

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Based on the OECD Survey of Adult Skills (PIAAC) data, discussed in detail in the following sub-section, which allow for a precise identification of occupational categories, personal care workers constitute 51% of workers in the LTC sector (NACE Codes 871, 873 and 881) among 31 OECD countries (Figure 2.7). Nurses add another 11% and other medical staff, including doctors who account for 3%. Social workers represent 7% of total employment in the LTC sector, while food preparing staff and cleaners make about 5% each. Administrative and management staff provide 6% of total employment in the sector. Remaining occupations make 12% of sectoral employment.

Figure 2.7. Occupational structure of the LTC sector

2017 or latest year



Note: In sectors 871, 873 and 881 of NACE classification of OECD countries. Sample size: 3 052.
Source: PIAAC data.

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2.1.4. Is home-based care expanding faster than residential care?

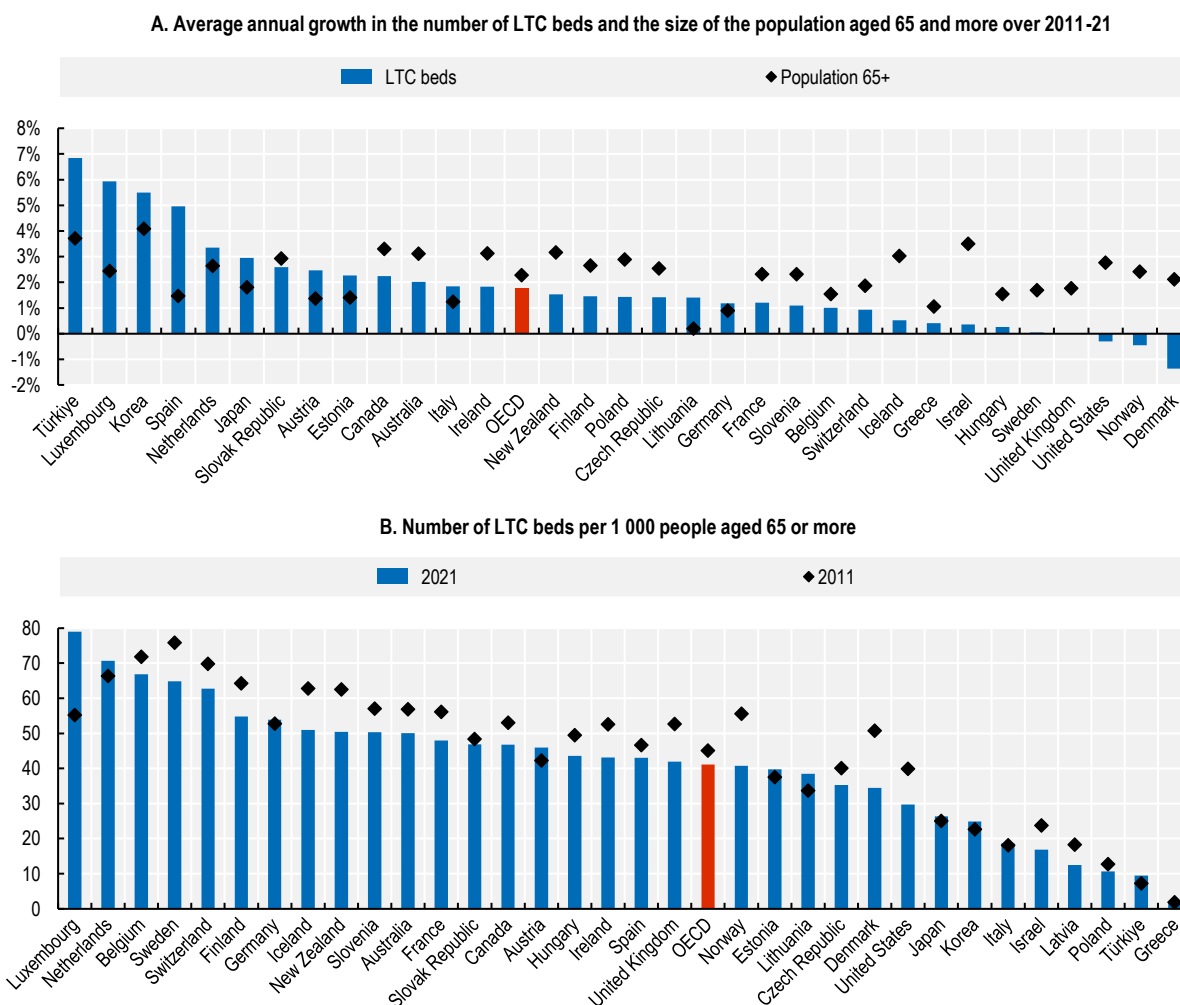
Home-based care allows care recipients to stay longer in their familiar environment and maintain more freedom while residential care entails moving to a different location and living in an institution. From a worker perspective, home-based care (at least those not based on live-in arrangements) may provide more independence and flexibility, closer relationships with care recipients, more diversity of tasks and a quieter and more personal setting. On the other hand, residential care gives more structure and routine, more options to work in teams and interact with colleagues, more people to care and resulting looser relationships with them, and a busier setting.

Historically, most countries have provided LTC in institutions. However, over the past few decades, many countries have pursued a “deinstitutionalisation” strategy, promoting home-based care solutions in order to both match care recipients’ preferences for home-based ageing and contain spending. For example, Sweden reduced the share of care recipients in institutional care from 24% to 15% between 1992 and 2008 (Leichsenring, Ilinca and Rodrigues, 2015^[8]). In addition to enhancing home-based services, these countries have promoted the use of community-based facilities as, for instance, day care centres. In some countries, the transition from residential care has been accompanied by the expansion of cash benefits to finance home care, which empowers older people to decide by themselves on what type of care to receive while it might have resulted in a larger use of informal care. More than half of the countries are transferring public LTC spending away from residential care and towards home-based care (OECD, 2020^[1]). However, non-professional carers might not have enough training and skills while excess caring responsibilities of family members and friends are likely to cause stress and might be hard to reconcile with other jobs.

Consequently, the number of LTC beds in institutions has not kept pace with population ageing during the last decade, contrary to the period before. The number of people 65+ accelerated after 2010, from an average annual growth rate of 1.8% between 2000 and 2010 to 2.3% between 2011 and 2021. By comparison, the number of LTC beds decelerated from an average annual growth of 3.7% to 1.7% over the same periods (Figure 2.8, Panel A).

As a result, the number of LTC beds per 1 000 people aged 65 or more declined from 45 in 2011 on average across countries to 41 in 2021 (Figure 2.8, Panel B). Over that period, this ratio increased in about one-third of countries while it decreased by more than 10 points in Denmark, Iceland, New Zealand, Norway, Sweden, the United Kingdom and the United States. One important caveat is that the number of beds compared to the population 65+ is a rough measure because care needs increase strongly with age and differ across countries at similar ages, as discussed in more details in Chapter 5.

Figure 2.8. Consistent with the shift towards residential care, the number of LTC beds has not kept pace with population ageing in the last decade



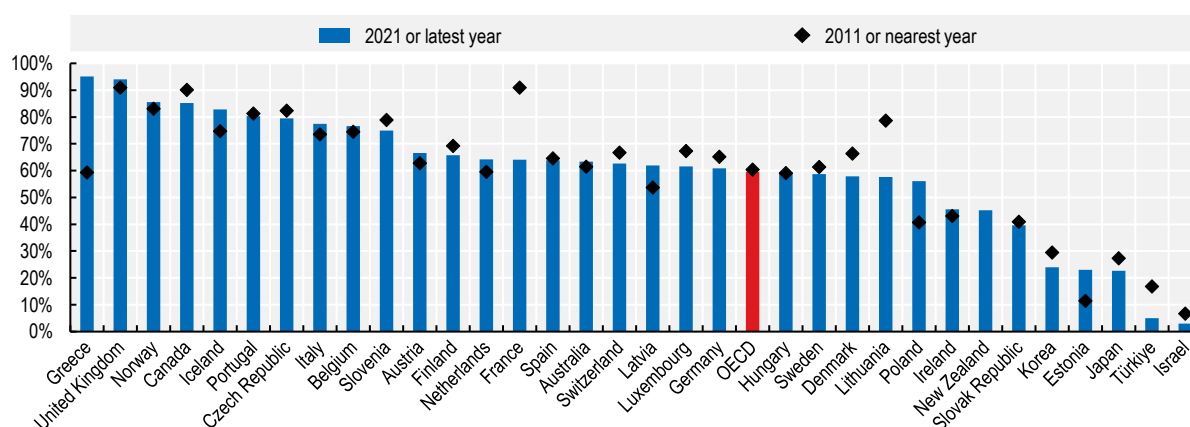
Note: Data refer to 2020 in Australia, Austria, the Czech Republic, Estonia, Finland, France, Hungary, Iceland, Japan, Korea, Lithuania, the Netherlands, Poland, the Slovak Republic, Slovenia, Spain, Sweden, Switzerland and the United Kingdom; and to 2019 in Germany, Greece and the United States. The reported OECD averages refer to all available countries; averages for countries for which all data are available are: 1.5% for LTC beds 2011-21, 2.1% for Pop 65+ 2011-21.

Source: OECD Health Statistics 2022, <https://doi.org/10.1787/health-data-en>.

The deinstitutionalisation of LTC does not show up, however, in how LTC workers are split between residential and home-based care. On average across the OECD, the share of LTC workers working in residential care has remained close to 60% in 2011 and in 2021. The share of residential care substantially declined from a high level in France and Lithuania, while it increased substantially in Greece and Poland. In countries with a small LTC sector, e.g. Estonia, Greece, Latvia and Poland, expanding residential care might be the first step of developing the LTC sector and separating it from healthcare. In most OECD countries, except Estonia, Ireland, Israel, Japan, Korea New Zealand, the Slovak Republic and Türkiye, the majority of LTC workers work in residential care. More than 90% of LTC workers work in residential care in Greece and the United Kingdom (Figure 2.9). A large role of informal carers in many countries might blur the identification of changing trends in the data (OECD, 2020^[11]).

Figure 2.9. Most of LTC workers still work in residential care in the OECD

Workers of residential care as percentage of all LTC workers



Note: Data based on two-digit sector classification and three-digit occupational classification.
Source: OECD Health Statistics and EU-LFS data.

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2.2. Wages of LTC workers

2.2.1. How do wages of LTC workers compare to those of other workers?

Wages in healthcare (NACE 86) and education (NACE 85) are relevant reference points for LTC workers. Long-term care, childcare and mental care are grouped together in residential (NACE 87) and non-residential care (NACE 88) sectors, according to NACE classification. Apart from other professions, both the healthcare and the LTC sectors employ nurses and personal care workers. They provide personal services that are often financed and delivered by the public sector, grouped as non-market services, as the education sector.

This sub-section first compares average wages among selected sectors and then the analysis is narrowed to personal care workers and nurses as aggregate average sectoral wages reflect sectoral differences in the composition of occupations, including e.g. physicians. Due to data limitations, undeclared work is not accounted here. Finally, the evolution of relative wages over time is discussed.

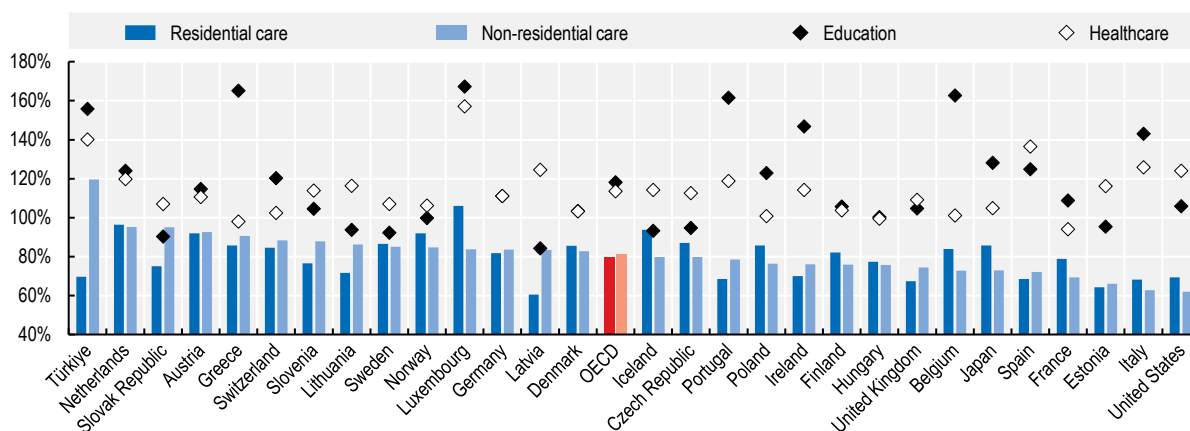
Workers in residential and non-residential care sectors earn on average 80% of economy-wide average wage

On average across OECD countries, jobs in residential and non-residential care paid 80% and 81% of the economy-wide gross average hourly wage in 2018, respectively (Figure 2.10). These compare to 114% and 118% in the healthcare and education sectors, respectively. These sectoral averages are calculated for all workers in these sectors, including those not considered LTC workers in this report, e.g. doctors, cooks or accountants. Previous reports showed similar values: OECD (2020^[1]) highlights a 40% median-wage difference between the LTC and the hospital sector in 2014 on average across OECD countries; according to Eurofound (2020^[9]), workers in residential and non-residential care sectors were paid 80% of the average wage in 2014 on average in the EU compared to 111% for healthcare. The overrepresentation of personal care workers including nurse aids, partly explains low pay in LTC.

Both non-residential and residential care pay less than the average wage in all OECD countries except Türkiye for non-residential care and Luxembourg for residential care. Average wages in both sectors are higher than 90% of the total-economy wage in Austria and the Netherlands. By contrast, in Estonia, Italy and the United States they are lower than 70% in both sectors. Moreover, there is no common pattern across countries about whether average wages are higher or lower in the residential than in the non-residential care sector, which is explained by composition effects that are analysed in greater detail in the remaining of this section.

Figure 2.10. Average hourly wages in selected economic sectors in OECD countries in 2018

Percentage of the economy-wide gross average hourly wage



Note: For the United States, healthcare wages refer to hospitals.

Source: OECD calculations 2018 EU-SES data, 2021 Occupational Employment and Wage Statistics (OEWS) survey data for the United States; and 2018 Survey on Working Conditions of Long-term Care Workers and 2018 Basic Survey on Wage Structure in Japan.

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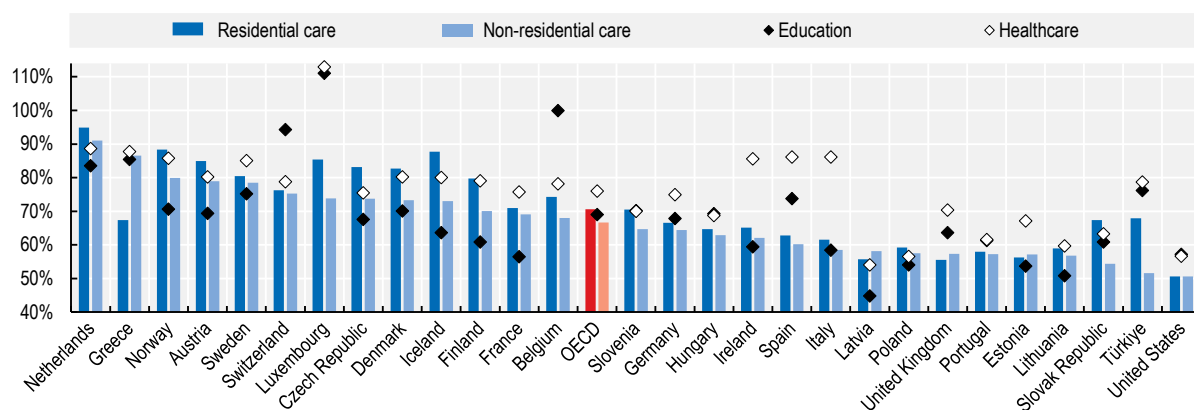
Personal care workers earn about 70% of the economy-wide average wage

As discussed in Section 2.1, care sectors, and the LTC sector in particular, employ many professions, including physiotherapists, cooks, administrative staff, while only personal care workers and nurses working in LTC are considered LTC workers based on the OECD definition. Sectoral differences in average wages thus partly reflect wage differences across various professions (composition effects). When narrowing the comparison to one professional category, personal care workers, differences across sectors are much smaller.

Personal care workers employed in residential and non-residential care earn 71% and 67% of the economy-wide average wage, respectively (Figure 2.11). By comparison, personal care workers in education and healthcare earn 69% and 76%, respectively. Wages of personal care workers are higher in healthcare than in both residential and non-residential care in three-fifths of OECD countries, and the difference is larger than 20% of the average wage in Greece, Ireland, Italy, Luxembourg and Spain.¹⁰ Personal care workers earn less in non-residential care than in residential care in a large majority of countries and by more than 10% of the average wage in Finland, Iceland, Luxembourg, the Slovak Republic and Türkiye. Only in Greece does residential care pay substantially less than non-residential care.


Figure 2.11. Average hourly wages of personal care workers in selected sectors in 2018

As percentage of the economy-wide hourly gross average wage



Note: Personal care workers are those included 53 ISCO category, which groups together personal care workers and childcare workers. NACE sectors are: 85 education, 86 healthcare, 87 residential care, 88 non-residential care. For the United States, the category Home Health and Personal Care Aides (SOC 31-1120) identifies personal care workers.

Source: OECD calculations 2018 EU-SES data, and 2021 Occupational Employment and Wage Statistics (OEWS) survey data for the United States.

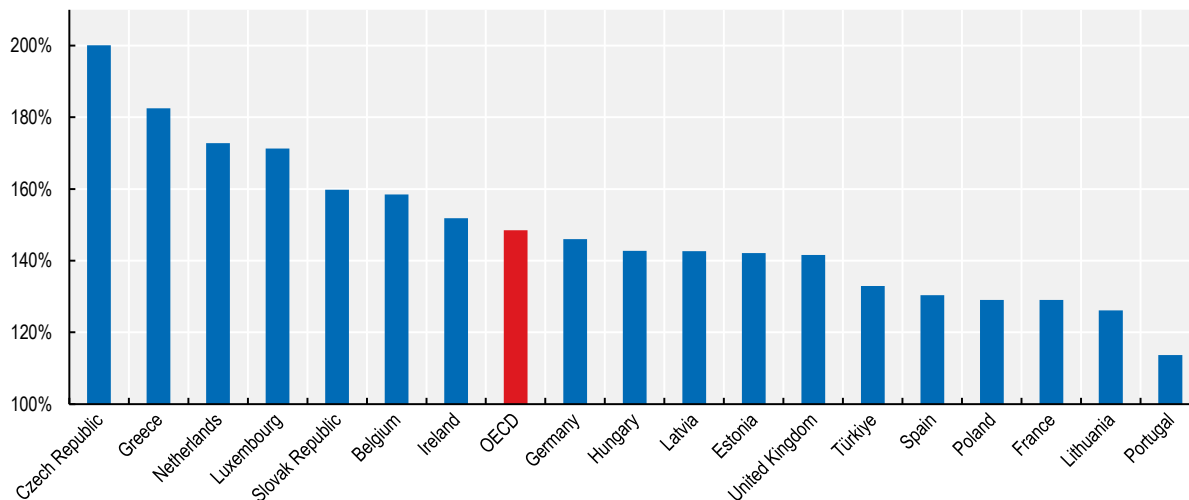
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As a share of the minimum wage, personal care workers in residential (NACE 87) and non-residential (NACE 88) care sectors earned 149% of the minimum wage in 2018 on average among countries having a minimum wage (Figure 2.12). This ratio ranges from 114% in Portugal to more than 170% in the Czech Republic, Greece, Luxembourg and the Netherlands. In the United States, 64% of nurse assistants in nursing homes earn between USD 10 and 15, compared to minimum wages of USD 7-9, varying by state (ASPE, 2020_[10]).

However, an important share of LTC workers might be affected by minimum-wage settings. Before the introduction of the minimum wage in the United Kingdom in 1999, about 40% of LTC workers were paid below the newly introduced minimum wages level (Hussein, 2017_[11]). Moreover, Vadean and Allan (2020_[12]) show that an increase in the national minimum wage in 2015 and 2016 led to wage increases for a substantial share of LTC workers.

Figure 2.12. Average hourly wages of personal care workers in residential and non-residential care sectors relative to minimum wages

As percentage of the minimum wage, 2018



Note: Personal care workers identified on as 53 ISCO occupational category and 87-88 NACE sectors. The OECD average reported for countries for which both series are available.

Source: OECD calculations based on EU-SES data and OECD data on minimum wages, https://stats.oecd.org/Index.aspx?DataSetCode=MW_CURP.

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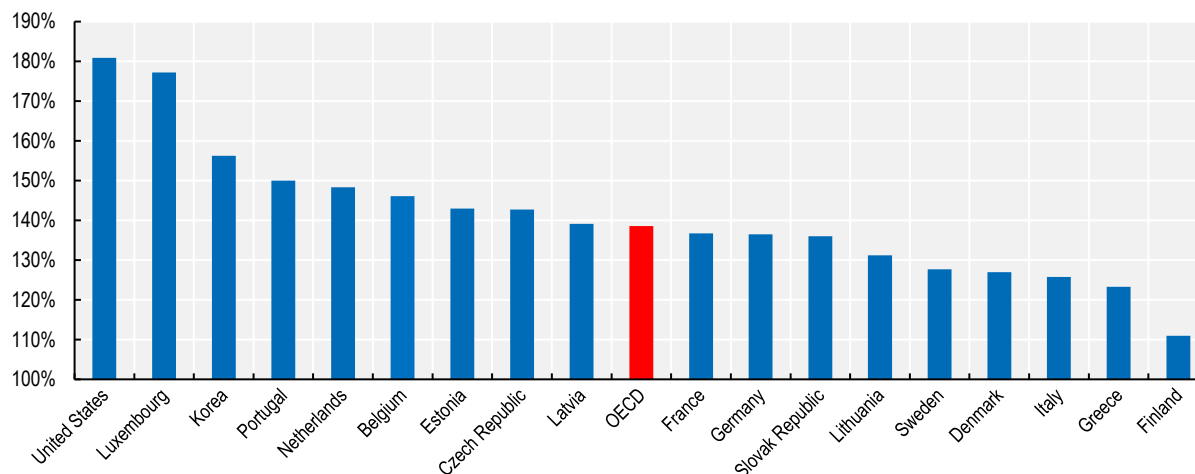
The hourly wage comparison between sectors and occupations might be blurred by not accounting for the travel time and by difficulties in measuring actual working time in live-in care arrangements. The reported working hours often do not include travel time, which is expected to be higher for LTC workers than for most other professions when LTC workers give several home visits a day. In some countries, paid time is restricted only to time spent with care recipients (OECD, 2020_[11]). Furthermore, it is not straightforward to define the working time of workers who live with care recipients and may therefore be ready to provide assistance 24 hours a day. In Austria for example, LTC live-in carers are classified as self-employed with limited regulation on working hours (Trukeschitz, Österle and Schneider, 2022_[13]).

Nurses earn substantially more than personal care workers

In residential and non-residential care sectors, nurses earned 39% more than personal care workers on average in 2018 (Figure 2.13). This difference exceeded 50% in Korea, Luxembourg and the United States and was less than 30% in Denmark, Finland, Greece, Italy and Sweden.

Figure 2.13. Nurses earn substantially more than personal care workers

Average hourly wages of nurses compared to personal care workers in residential and non-residential care sectors in 2018 or latest year



Note: Residential and non-residential care sectors are NACE sectors 87 and 88, respectively. The average wage of nurses is the weighted average of wages of nurse associates and nurse professionals, weighted by their size in employment. For Korea, data for nurses refer to an average based on different qualifications. Data for most countries for 2018, but Korea, the Netherlands, Portugal, and Sweden refer to 2014, while for the United States data refer to 2021.

Source: OECD calculations based on EU-SES data and OECD LTC workforce survey 2018.

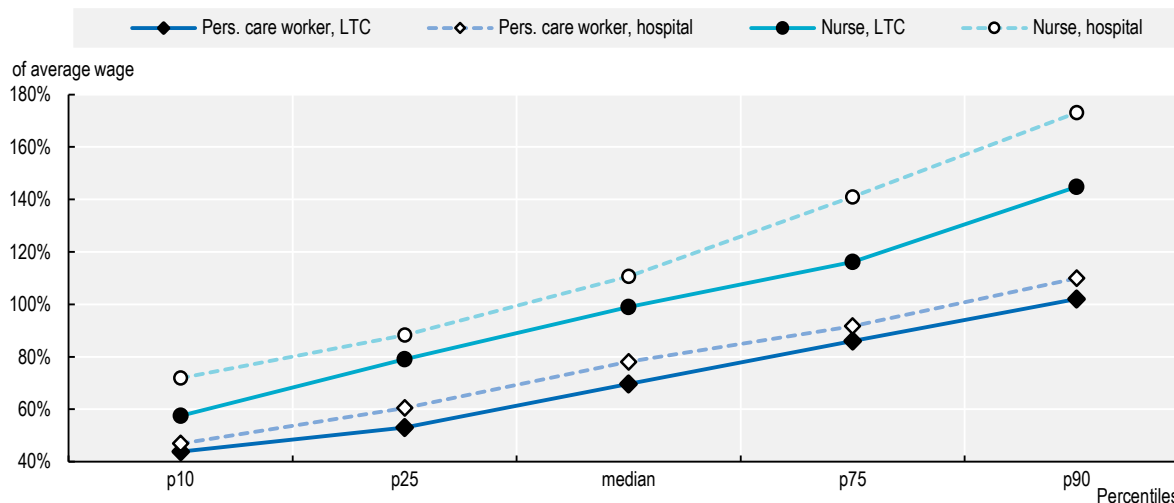
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The LTC sector, which includes only parts of residential and non-residential care sectors, pays lower wages than hospitals to both nurses and personal care workers on average. The median hourly wage for nurses in hospitals and in the LTC sector is equal to 111% and 99% of the average wage in the total economy, respectively (Figure 2.4). The difference is similar for personal care workers; their median hourly wage in hospitals and in the LTC sector is equal to 78% and 70% of the average wage, respectively.

A large share of personal care workers in the LTC sector have low wages. One-quarter of personal care workers earn less than 53% of the average wage in the LTC sector and less than 60% in hospitals. These compare to the minimum wage averaging around 45% of the average wage in OECD countries that have minimum wages. Additionally, only 10% of personal care workers working in the LTC sector earn at least the average wage, compared to 50% of nurses in this sector. The wage variation within personal care workers in the LTC sector is very similar to that of personal care workers in hospitals and only slightly below that of nurses. The wage of a personal care worker in either the LTC or hospital sectors at the ninth decile is equal to 2.3 times that of a worker at the first decile, compared with 2.5 and 2.4 for nurses in the LTC and hospital sectors, respectively.


Figure 2.14. About one-quarter of personal care workers in LTC sector earn less than half the average hourly wage

Selected percentiles of wage distribution of selected occupations in LTC and hospital sectors, 2017 or latest year available



Note: Based on microdata from PIAAC for 31 OECD countries, which are described in detail in the next subsection. The LTC sector includes the following NACE sectors: 871, 873 and 881. The hospital sector is NACE 861. Personal care workers are identified by the 532 code of ISCO classification.

Source: OECD calculations based on PIAAC data.

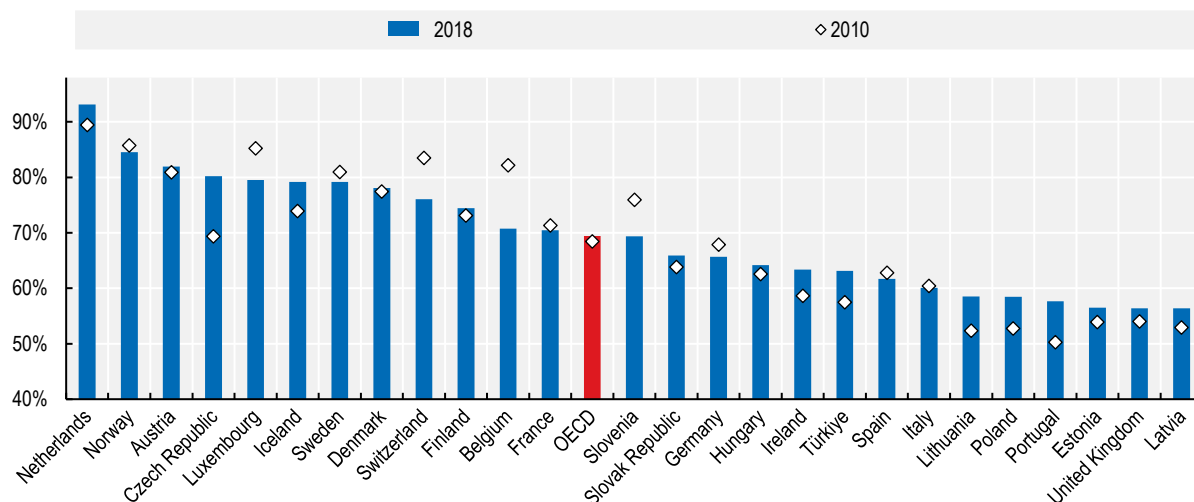
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Wages of personal care workers in residential and non-residential care sectors have kept pace with the average

Wages of personal care workers in residential and non-residential care sectors (NACE 87 and 88) as a ratio of the average wage in the overall economy tend to be stable, even though some countries have experienced substantial changes over time. The relative wage of personal care workers in residential and non-residential care sectors was stable on average across OECD countries, at 69% in 2018 compared with 68% in 2010 (Figure 2.15). It increased in 16 countries, at most by 11 points in the Czech Republic, and declined in 10 countries, and at most by 11 points in Belgium. A longer 25-year perspective, based on macro data for all occupations in social services, similarly shows a stability of relative wages on average in the OECD.¹¹

Figure 2.15. Wages of personal care workers kept pace with the average wage over the past decade

Wages of personal care workers in residential and non-residential care sectors as percentage of the average wage in 2010 and 2018



Note: Personal care workers identified on as 53 ISCO occupational category and 87-88 NACE sectors.

Source: OECD calculations based on EU-SES data.

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2.2.2. What drives wages of LTC workers?

PIAAC data allows for a novel wage analysis of LTC workers

The OECD Survey of Adult Skills (PIAAC) provides a unique and rich individual data source on workers' and firms' characteristics that allow to identify LTC workers precisely for 31 OECD countries. This is the first time PIAAC data are used to analyse LTC workers (Box 2.2). The regression analysis estimates the impact of different factors, such as age, gender, education, and tenure, on wages and highlights the remaining wage differences across professions and sectors, i.e. after having factored out the impact of their different composition in terms of age, gender, education, tenure etc.

Before commenting on the results of the econometric analysis, descriptive statistics show that relative wages based on PIAAC data are broadly consistent with those presented in the preceding sub-section based on earnings surveys. On average across OECD countries, nurse associates (ISCO code 322) earn slightly less (2%) in all sectors than the average wage for the whole economy. Compared to nurse associates, personal care workers (ISCO code 532) earn 26% less while nurse professionals (ISCO code 222) earn 27% more. The average wage in the LTC sector is 23% lower than for the total economy, while it is 11% higher in the hospital sector (NACE code 861), hence the LTC sector pays on average 31% less than hospitals.¹² These sectoral differences are partly driven by differences in the composition of workforce in terms of education and occupations.

Box 2.2. Wage regression with PIAAC data

Compared to data sources for the statistics reported above, the sample size of PIAAC is much smaller. This implies that there are limited options to report cross-country differences, but it allows for a deeper look into the determinants of wages in the LTC sector. PIAAC identifies precisely the LTC sector (i.e. NACE codes 871, 873 and 881) within residential and non-residential care sectors (NACE codes 87 and 88).

The analysis is based on a wage regression through which individual, job and firm characteristics are among key factors driving individual wages. It provides insights into the determinants of wage differences between LTC workers and other workers. Table 2.3 presents estimates with Panel A covering only personal care workers and nurses in the LTC and hospital sectors, and Panel B covering all workers in the economy. Estimates might differ between the total and restricted samples because, for example, gender pay gap or returns to education might be very different in various sectors. These differences provide important insights on the specificity of wage setting in LTC sector.

Results of the econometric analysis are presented in Table 2.3, with Panel A covering only the LTC and hospital sectors (restricted sample) and Panel B covering all sectors in the economy (full sample). The restricted sample allows for a more precise estimate of the effects at play in the LTC sector. While the effects – for example of age, education, tenure, etc. – estimated from the restricted sample applies to workers in the hospital and LTC sectors indistinctly, effects that would apply to workers in the LTC sector specifically have been tested, but no significant differentiated effects have been found.¹³ This is why in the text the estimated effects can be described as applying to LTC workers. The full sample makes it possible to compare hourly wages of LTC workers more broadly with those of individuals with similar characteristics but working in all other occupations and sectors.

Table 2.3. Wage regression results

Estimates of wage regression explaining hourly wages with individual, job and sector characteristics

Dependent variable: Log (hourly gross wage)

Variables	A. Sample restricted to hospital and LTC sectors (NACE 861, 871, 873 and 881)		B. Full sample	
	Coefficients/effects	Standard errors	Coefficients/effects	Standard errors
Personal care workers	-0.147**	0.020	-0.122**	0.017
Nurses professionals	0.123**	0.020	0.218**	0.017
Nurse associates (ref.)	0.000		0.055	
LTC sector (average)	-0.076**	0.017	-0.041	
– Residential nursing homes			-0.003	0.016
– Residential care for older people			-0.043**	0.016
– Non-residential, social work for older people			-0.078**	0.016
Hospitals (ref.)	0.000		0.013	
Women	-0.076**	0.019	-0.142**	0.003
Foreign-born	0.029	0.017	-0.052**	0.005
Age	0.021**	0.004	0.039**	0.001
Age squared	-0.001**	0.000	-0.001**	0.000
– marginal effect at age 22	0.012		0.020	
– marginal effect at age 45	0.001		0.001	

Education (number of years)	0.020**	0.003	0.035**	0.001
Education in health-related field (number of years)	0.010**	0.001		
Reading skills (per 100 points, approx. 2 x std. dev.)	0.037	0.025	0.022**	0.006
Numerical skills (per 100 points, approx. 2 x std. dev.)	0.036	0.023	0.078**	0.005
Tenure	0.016**	0.002	0.016**	0.000
Tenure squared	-0.001**	0.000	-0.001**	0.000
– average per year over the first 10 years	0.013		0.014	
Hours worked (monthly, logarithm)	0.583**	0.134	0.300**	0.030
Hours worked (monthly, squared logarithm)	-0.084**	0.015	-0.054**	0.003
Public sector (relative to private sector)	0.065**	0.015		
Non-profit sector (relative to private sector)	0.056*	0.027		
Firm size (ref: 1-10 employees)				
– 11 to 50 employees	0.021	0.022		
– 51 to 250 employees	0.058**	0.022		
– 251 to 1 000 employees	0.041	0.025		
– More than 1 000 employees	0.055*	0.026		
Country dummies	yes		yes	
Sector dummies	yes		yes	
Occupation dummies	yes		yes	
Overall statistics				
Number of observations	3 336		91 421	
Adjusted R squared	64%		63%	

Note: In Panel B, sectoral and occupational dummies were rescaled so that the average value of dummies, weighted by the employment shared, equals 0. *, ** stand for p values of 0.05 and 0.01. Among the explanatory variables, the PIAAC scores are divided by 100. Sample included only nurses (ISCO codes: 222 and 322) and personal care workers (ISCO code 532) in hospitals (NACE 871) residential care (NACE 871 and 873) and non-residential care (881). The LTC sector estimate for the full sample is the average of the estimates of NACE sectors: 871, 873 and 881. Observations from the top and bottom 1% of hourly earnings and top 1% of working hours were removed. Public sector and firm size dummies were not included in the full sample estimates not to interfere with sectoral dummies. PIAAC data cover the following countries: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Israel, Italy, Japan, Korea, Lithuania, Mexico, the Netherlands, New Zealand, Norway, Poland, the Slovak Republic, Slovenia, Spain, Sweden, Türkiye, the United Kingdom and the United States. Sample sizes of countries were not corrected and no weighting of observations was used. For the restricted sample, interaction terms of LTC sector with gender, foreign-born and occupational variables were tested separately and they were not statistically significant. Regression was estimated with OLS.

Source: OECD analysis based on PIAAC data.

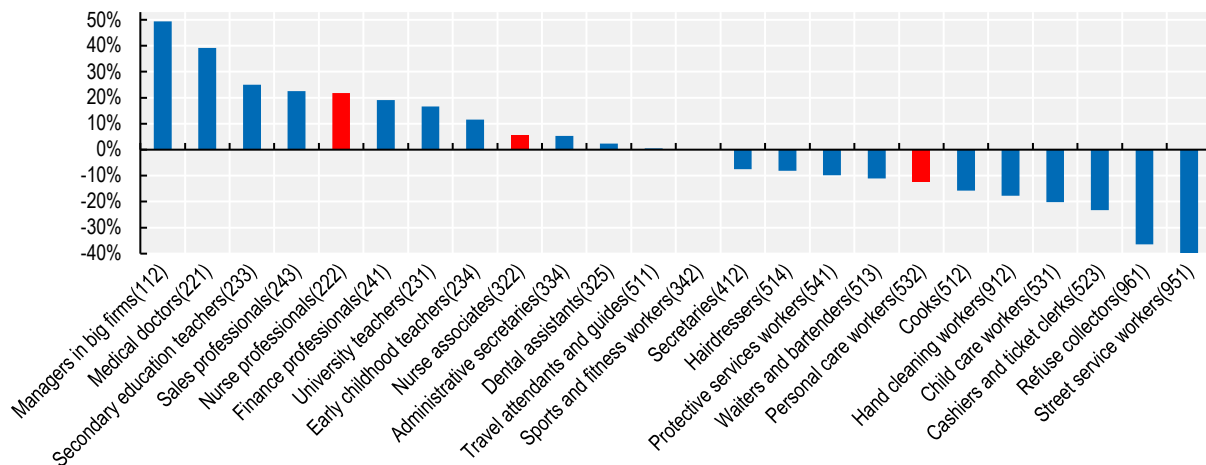
Half of wage differences between personal care workers and nurses relates to differences in education and other personal characteristics

When both workers' and sectoral characteristics are controlled for, i.e. for the same age, number of years of education, tenure, etc., personal care workers earn 14.7% less than nurse associates in the LTC sector (Table 2.3, Panel A in Box 2.2). This implies that slightly less than half of the observed hourly-wage difference (25.7%) between personal care workers and nurse associates is explained on average by individual (and firm) differences including age, number of years of education, tenure, etc. This also means that more than half of the wage differences that are detrimental to personal care workers relative to nurse associates are not explained by these factors.¹⁴ Additionally, nurse professionals earn 12.3% more than

nurse associates beyond what is explained by workers' and firms' characteristics. This is less than half of the 26.9% observed in the raw data on average. With a broader dataset, Hirsch and Schumacher (2012^[14]) show that accounting for working conditions in the wage regression reduces by half the wage premium estimated for registered nurses in the United States.

In the sample with all sectors, for similar characteristics – i.e. when gender, education, etc. is taken into account – working as a personal care worker is associated with lower hourly wages by 12.2% compared with the average across occupations (Figure 2.16).¹⁵ This negative occupational effect is similar to that of waiters (-11.1%), and larger in absolute terms than for hairdressers at -8.1% but smaller than for cooks (-15.8%) or refuse collectors (-36.5%). The estimation does not seem to fully capture the intensive education training of medical specialists: medical doctors earn 39.1% more than explained by individual characteristics and nurse professionals earn 21.8% more, in line with sales professionals, while university teachers earn 16.7% more. Nurse associates earn 5.5% more than the average occupation with similar individual characteristics, similar to administrative secretaries.¹⁶ Across all occupations, estimates range from -40% for street service workers to 49% among the managers of largest companies.

Figure 2.16. Selected occupational effects in the wage regression, percentage



Reading Note: The value of -12.2% for personal care workers mean that they earn 12.2% less than people with similar characteristics on average in all occupations.

Note: Coefficients from a wage regression for all workers were rescaled so that their average, weighted by number of observations, equals 0. Occupations are identified at 3-digit ISCO08 classification (130 different occupations). Only selected occupations are presented at the figure.

Source: OECD calculations based on PIAAC data.

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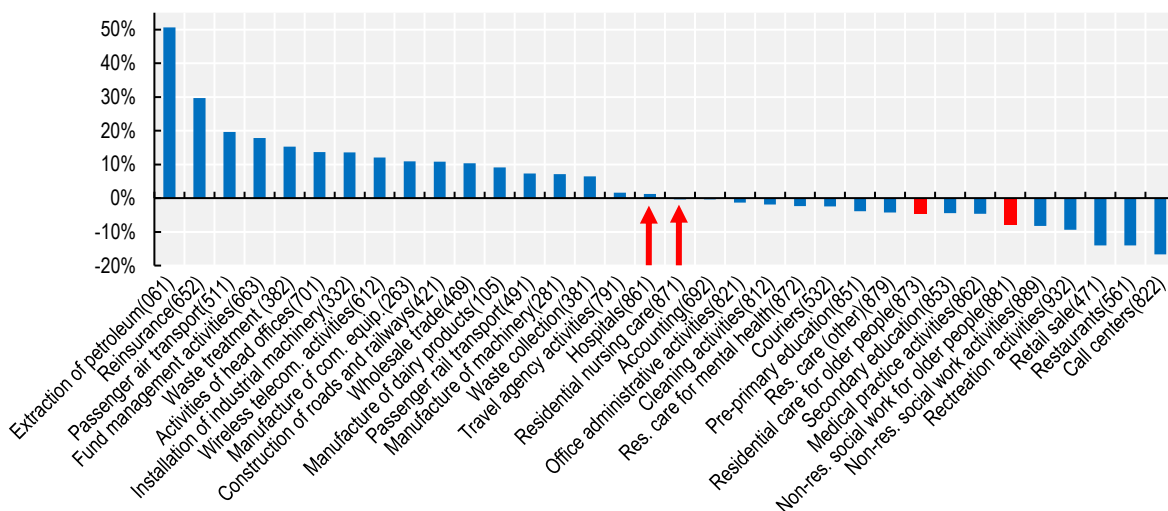
The LTC sector pays significantly less than the hospital sector to similar workers

The LTC sector is estimated to pay wages that are 7.6% lower than in the hospital sector for similar workers and similar jobs (Table 2.3, Panel A in Box 2.2). This sectoral effect is much lower than the 30.7% average-wage difference between both sectors, which implies that about three-quarters of this large average difference between hospital and the LTC sectors reflects differences in workers' characteristics.

When all sectors and occupations are included (Table 2.3, Panel B in Box 2.2), the LTC sector pays 4.1% (on average) less than the average sector for similar characteristics (Figure 2.17). Residential care in the broad sense distinguishes in the data nursing homes and residential care for the older people. On top of assistance with daily living provided in less specialised residential care facilities, nursing homes provide

medical assistance from nurses. This effect comes from -0.3% for nursing homes, -4.3% for residential care for older people and -9.0% for non-residential care for older people. By comparison, the wage effect (compared to the average sector) for hospitals is +1.3% higher wages compared to the average. A negative wage effect in the LTC sector is consistent with the estimated wage pattern in labour-intensive service sectors: retail sales and restaurants pay 14.1% less all other things equal, call centres pay 16.6% less, amusement and recreational activities pay 9.3% less, and pre-primary education 3.8% less. By contrast, sectors such as extraction of petroleum or reinsurance pay 25% or more.

Figure 2.17. Selected sectoral effects in the wage regression for the total sample, percentage



Reading Note: The value of -9.0% for non-residential care for older people means that workers in the non-residential care for older people earn 9.0% less than workers with similar characteristics on average across all sectors.

Note: Coefficients from a wage regression for all workers were rescaled so that their average, weighted by number of observations, equals 0. Sectors identified at 3-digit NACE2 classification (238 different sectors). Only sectors are presented at the figure.

Source: OECD calculations based on PIAAC data.

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Gender differences in hourly wages are lower for LTC workers than on average for other workers

Although a significant gender wage gap among LTC workers exists, which should by itself be a source of concern for policy makers, women are less penalised in the LTC and hospital sectors than in the overall economy. Among LTC workers, women's "raw" hourly wages are 2% lower than men's on average. The gender gap in hourly wages is low in part because women on average have 2.7 more years of tenure than men (8.0 versus 5.3 years). When correcting for this along with other personal characteristics, the gender hourly wage difference among LTC workers in similar jobs and with similar characteristics is significant and estimated at 7.6% (Table 2.3, Panel A in Box 2.2). Although this means that in a sector where women represent more than 85% of employment, they still earn less than men doing the same job and having otherwise similar characteristics, this is substantially less than in the whole economy, where the female "penalty" is estimated at 14.2% (Table 2.3, Panel B in Box 2.2). Consistently, Eurofound (2021^[15]) reported that the gender pay gap is larger in high-pay sectors and lower in low-pay services such as accommodation and food.

Regression results do not provide evidence of pay discrimination against foreign-born LTC workers

When controlling for personal and firm characteristics, in the overall economy (Table 2.3, Panel B in Box 2.2), foreign-born workers are estimated to receive wages that are 5% lower than workers born in the country. However, for the sample restricted to the LTC and health sectors, the binary variable identifying foreign-born individuals is not statistically significant (Table 2.3, Panel A in Box 2.2). Without controlling for individual characteristics, i.e. based on raw data, among LTC workers, foreign-born workers earn 4% more per hour than those born in the country on average. Hence, both average hourly earnings and the wage regression do not deliver evidence that foreign-born LTC workers face wage discrimination. However, this might result from not fully accounting for the income of undeclared migrant workers whose working conditions are likely to be worse than in the formal sector while they might be largely underrepresented in surveys, including in PIAAC. Frequent undeclared employment of migrant workers was confirmed by Triantafyllou et al. (2010^[16]) while Lightman (2020^[17]) found significantly lower wages among foreign-born individuals in the care sectors, but this was based on annual earnings, not hourly earnings as studied here. Chapter 3 discusses the situation of migrant LTC workers in more detail.

Higher wages for those with health-related education, working in larger companies and in the public sector

Every year of non-health related education is estimated to increase hourly wages of personal care workers and nurses in the hospital and LTC sectors by 2.0% compared to 3.0% when education is pursued in a health-related field (Table 2.3, Panel A in Box 2.2).¹⁷ The returns to education are somewhat lower than in other sectors because in the full sample the average return is estimated at 3.5%. Moreover, all other things equal, public-sector and non-profit institutions are estimated to pay around 6% more than private-sector companies, and larger firms employing more than 50 employees pay about 5% more than those employing less than 11 people. This might result from stronger collective bargaining setting in larger and public companies, discussed in greater detail in Section 2.4. Consistently, Hussein (2017^[11]) notes that for-profit providers pay substantially lower wages than non-for-profit entities in the United Kingdom.

2.2.3. Why do LTC jobs pay low wages despite labour shortages?

Similar to the results of the regression analysis above, many other empirical studies identify substantially low pay for care jobs. More precisely, wages are typically found to be low for medical aids and personal carers, in particular in childcare, while they are average or high for nurses and doctors (Folbre, Gautham and Smith, 2020^[18]; Dwyer, 2013^[19]; Budig, Hodges and England, 2018^[20]; Lightman, 2020^[17]; Barron and West, 2011^[21]).

These wage disadvantages affecting care workers compound with the difficult working conditions in the LTC sector. Indeed, difficult working conditions in LTC jobs would justify higher wages than for workers with similar characteristics in less arduous sectors. Based on PIAAC data, 18% and 14% of non-working former LTC workers in residential and domestic care, respectively, point to bad health as the reason for leaving their last job, compared to 12% and 10% in healthcare and all sectors, respectively (Table 2.4).¹⁸ Chapter 3 provides more evidence on poor working conditions in LTC jobs.

Table 2.4. Health is an important reason for ending residential LTC jobs

The main reason for stop working in the last job, percentage

	Giving up work for health reasons	An end of a temporary contract	Retirement or early retirement	Dismissed or resigned for other reasons
Healthcare	11.9	16.3	23.7	48.1
Residential care	18.4	16.9	14.9	49.9
Domestic care	14.4	24.2	11.1	50.4
All sectors	9.6	21.1	14.2	55.3

Note: Each row adds to 100%.

Source: OECD calculations based on PIAAC data.

This part assesses other factors explaining low wages in the LTC sector beyond those highlighted in the above analysis. At first glance, it may be puzzling that low wages and poor working conditions are recorded in a sector characterised by unmet needs and labour shortages. First, mechanisms that can help explain this puzzle are highlighted. The analysis then turns to discussing why individual characteristics that are not observable in earnings surveys partly explain low wages of LTC workers. The “devaluation of women’s work” hypothesis is sometimes raised to explain why cultural norms result in low wages in care jobs. Other explanations for low wages may refer to the potential role of occupational entry barriers, sharing profits between companies and employees (rent-sharing) and monopsony power of companies.

Low wages and labour shortages

There may be a paradox to find low wages in a sector such as LTC often reported to suffer from labour shortages, as analysed in more detail in Chapter 5. Labour shortages refer to a situation where labour demand exceeds labour supply at a given wage. Barnow, Trutko and Piatak (2013^[22]) define occupational labour shortage as “a sustained market disequilibrium between supply and demand in which the quantity of workers demanded exceeds the supply available and willing to work at the prevailing wage and working conditions at a particular place and point in time”.

When market forces are at play, the existence of unmet demand should drive wages up both to attract more workers and to limit (labour) demand through higher prices of services. There are reasons, however, that could explain why these market forces do not work properly within LTC. Causality could also work the other way. Too low wages are likely to result in labour shortages. In that case, one key question refers to whether this is a temporary phenomenon or whether market forces face obstacles that perpetuate the disequilibrium.

Veneri (1999^[23]) describes labour shortages in the dynamic context, i.e. referring to the situation in which demand continually grows more rapidly than supply. Even though wages and labour supply may be increasing, a shortage may result because they cannot keep up with demand (Arrow and Capron, 1959^[24]). A slow reaction by employers or by workers will delay the needed adjustments. It may take time for employers to recognise the difficulty of finding workers or for workers to realise the opportunities available. Also, response time may be slowed by institutional barriers, such as limited enrolment capacity in training institutions or requirements such as licensing and certification. As shown in Section 2.1, the number of LTC workers has increased substantially over last 20 years while their wages have been rising at the pace or slightly faster than the average wage on average across countries (Figure 2.15).

Unmet demand is different from unmet needs because needs are expressed irrespective of price or wage levels. There are typically two main reasons why needs may not be fulfilled. First, the person in need is not ready to pay, due to for example, low current income and limited savings, the price expected by the service provider. Second, the state is not ready to spend enough resources to ensure the service is

delivered to meet the needs, likely resulting in lower wages. In the second situation, unmet needs and labour shortages are closely related.

Amenities and unobserved characteristics of workers

Accounting for workers' characteristics that are not observable in many earnings surveys contributes to explaining low wages of care workers. Some surveys follow individuals who switch jobs over time and are, therefore, able to account for all time-constant characteristics, including those unobservable. Unobserved characteristics may include preferences, personal traits and unobserved skills. Studies based on such data show substantially lower, but still statistically significant, wage penalties for care jobs. For example, England, Budig and Folbre (2002^[25]) estimate that after controlling for those unobserved characteristics wages of workers are around 5% lower in care jobs.¹⁹ No wage penalty was observed among nurses. For the United Kingdom, Barron and West (2011^[21]) find that personal care workers face a wage penalty of between 6% and 18%. Hirsch and Manzella (2014^[26]) question the fact that wages in care-related jobs are substantially lower than in other jobs. Applying a continuous measure of care intensity to all occupations, they find that, after controlling for unobserved heterogeneity, the substantial wage penalties associated with caring remain statistically significant but are around three times lower.

More specifically, amenities (non-wage characteristics of jobs such as perks or flexible working time options), which are largely unobservable, may contribute to explaining low wages in the LTC sector. LTC workers often perceive their work as meaningful, even slightly more so than healthcare workers and much more often than workers in other sectors (Eurofound, 2020^[9]). On top of that, despite low wages, personal care workers report relatively high job satisfaction.²⁰ Dodson and Zinbarg (2007^[27]) show that LTC workers value the family-like relationship present in LTC jobs. Additionally, if part-time employment opportunities are scarce elsewhere, the possibility to work part-time in LTC jobs might be in demand. Indeed, Erosa et al. (2022^[28]) show that a preference to work shorter hours strongly affects occupational choices. According to Vadean and Allan (2020^[12]), the majority of workers entering the LTC sector have low education levels and limited access to higher-paid jobs and/or are looking for part-time or flexible working-time jobs that can be fitted around other (caring) responsibilities. Moreover, some aspects of care jobs might attract workers with specific personality traits that are not well rewarded on the labour market. For example, Collischon (2019^[29]) reported that agreeableness – a person's ability to put other people's needs above their own – is negatively correlated with wages.²¹

Devaluation of women's work

LTC jobs may pay low wages due to cultural reasons. LTC involves many tasks, such as nurturing, that have been traditionally ascribed to women and delivered within families without remuneration. Skills associated with mothering are more likely to be seen as “natural” and, thus, be either unnoticed or considered as not deserving remuneration. This may result in care tasks being culturally undervalued and thereby underpaid as argued by “devaluation of women's work” hypothesis (England, Budig and Folbre, 2002^[25]). Chapter 4 discusses the lack of social recognition of LTC work in greater detail. Cultural undervaluation may lead not only to lower wages of women overall, but also to lower pay in care occupations for both men and women, even lower than in other feminised occupations such as administrative work (Lightman, 2020^[17]; Razavi and Staab, 2010^[30]). Palmer and Eveline (2010^[31]) argue that employers in Australia associate care jobs with self-sacrifice, love and family values in their recruitment communication to rationalise maintaining low wages in this sector.

The “devaluation of women's work” hypothesis has been tested empirically but without a clear conclusion. For Sweden, Magnusson (2008^[32]) shows that, while gender-balanced occupations seem to enjoy most prestige,²² care work does not have lower prestige than other jobs. Magnusson (2013^[33]) further shows that wages for similar workers are highest in occupations with a balanced mix of men and women. Ochsenfeld (2014^[34]) tests three hypotheses behind gender sorting to different jobs in Germany:

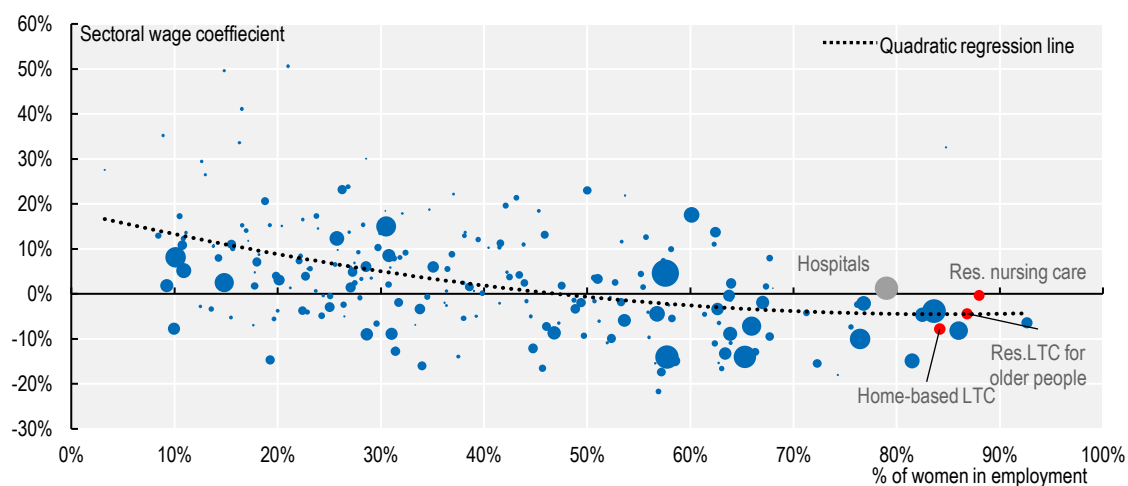
differences in human capital; devaluation of women's jobs; and differences in the career approach between genders. He finds empirical justification only for the latter: men tend to be more career driven and get higher paid jobs. The high proportion of women in caring sectors may also result from the fact that they provide a vast majority of caring tasks at home and sort into jobs requiring similar or complementary skills.

Results from the wage regression (Box 2.2) do not confirm any clear pattern between wages and the share of women in professions. The statistical relation between estimated relative wages and the share of women in professions is statistically insignificant. However, men (women) tend to work more often in sectors – rather than professions – that pay higher (lower) wages for individuals with similar work characteristics (Figure 2.18).

More precisely, sectors in which 90% of workers are men pay 14% more than those with equal gender shares in employment for similar workers of the same sex. Sectors with only 10% of men pay 4% less on average. The residential and non-residential care sectors are both extremely feminised, slightly more than healthcare. The estimated sectoral wage effects are negative for home-based care and residential care for older people (as shown Figure 2.18) while it is close to 0 for nursing homes and hospitals.


Figure 2.18. Highly feminised sectors including LTC tend to pay lower wages

Estimated hourly wages relative to the average wage and gender balance by three-digit economic sectors in OECD, 2017 or latest year



Note: The area of the bubbles corresponds to the number of workers in a given occupation or sector. Sectoral wage coefficients are estimates from the model described in Box 2.2, Panel B. They show sectoral wages assuming that the structure of employment characteristics such as age, gender, education, tenure etc. is the same in all sectors. Coefficients of sectors from a wage regression for all workers were rescaled so that their average, weighted by the sectoral employment size, equals 0. The trends are polynomials of degree 2 fitted with minimum least square. The fitted equation for sectors: $y = 0.3084x^2 - 0.5337x + 0.1828$ is statistically significant at the 95% confidence level.

Source: OECD calculations based on PIAAC data.

StatLink  <https://stat.link/rqvd6k>

Entry barriers

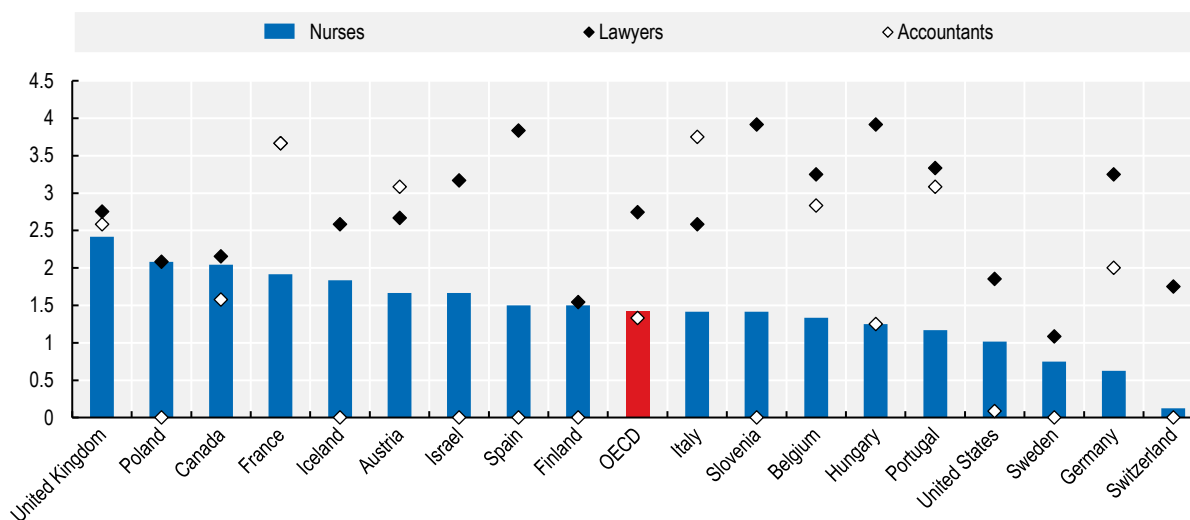
Occupational entry regulations, in the form of licencing or certification, might reduce job mobility and employment while increasing wages and improving both service quality and job quality (Giesecke, Groß and Stuth, 2020^[35]; Weeden, 2002^[36]; Bol and Weeden, 2014^[37]). Executing a licenced activity is restricted to those who hold the licence, while performing a certified activity is open to everyone with only the use of the occupational title being restricted. Von Rueden and Bambalaitė (2020^[38]) show that 15-35% of the workforce is subject to licencing in EU countries and the United States, which may noticeably boost

earnings for workers with those occupations. Licencing and certification are common for nurses, but uncommon for personal care workers. This might explain partly why the estimated professional effects from the regression model (Figure 2.19) are negative for personal care workers relative to nurses.²³

The OECD Occupational Entry Regulation index measures entry restrictions for some regulated occupations, including nurses. It does not measure the service quality or safety of clients or patients. The value of 0 means that there are no regulatory barriers to entry an occupation while the value of 6 would correspond to a fully regulated profession. The most regulated occupation, among those covered by the indicator, are lawyers with an average score of 2.7 (Figure 2.19). Nurses (excluding nursing aides or assistants) scored 1.4, exactly equal to driving instructors and similar to accountants. In all covered OECD countries, the nurse occupation is regulated and the occupational title is protected. Nurses are most strictly regulated (score above 2) in Canada, Poland and the United Kingdom, while they are less regulated in Germany, Sweden and Switzerland (score below 1). In almost all OECD countries the nurse profession is licenced, except Germany and Switzerland where only certification is required.²⁴ Compulsory practice to performing this occupation is required only in Belgium, some provinces of Canada and France. Examinations are required in Austria, Canada, Germany and the United Kingdom. The number of nurses is not limited by law in any of OECD countries. In Canada, Finland, France, Hungary, Italy, Poland, Portugal, Spain, the United Kingdom, it is mandatory to be a member of the occupational association to practice (von Rueden and Bambalaite, 2020_[38]).

Figure 2.19. Regulation of nurse profession varies substantially across OECD countries

OECD Occupational Entry Regulations (OER) Indicator 2020



Note: The value for the United States is the average for all states, and in the case Canada this is the average of all provinces.

Source: Occupational Entry Regulations (OER) Indicator 2020, <http://www.oecd.org/economy/growth/occupational-licensing-and-productivity/>.

StatLink  <https://stat.link/2qx4sj>

Financing constraints, rent sharing and labour market power

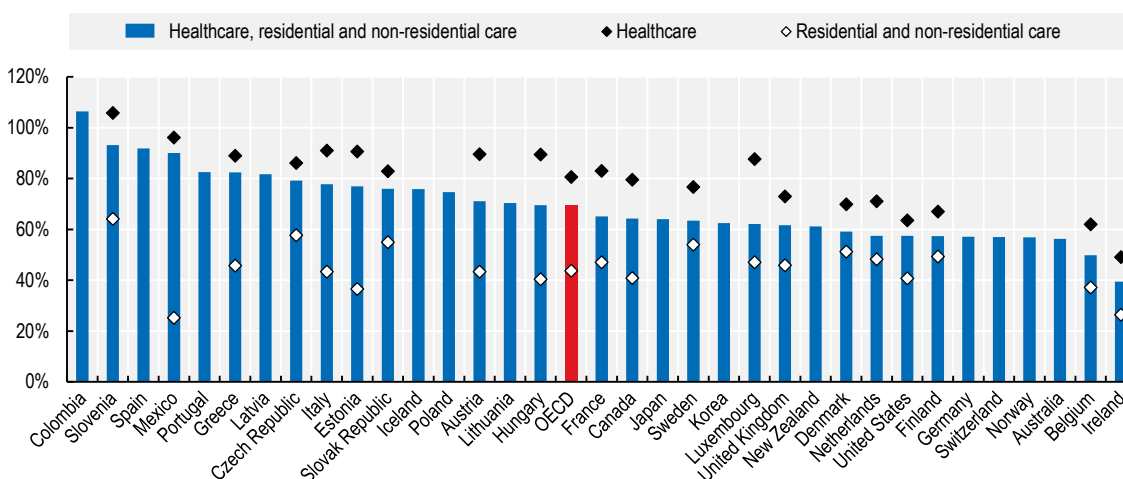
Scarce public resources, limited capacity to pay out-of-pocket for LTC services and low labour market power of LTC workers, as for example related to monopsonic market structures, may contribute to low wages in the LTC sector. LTC services are, in many countries, largely financed from the public purse, implying that LTC providers compete for resources with providers of other public services (Barron and West, 2011_[21]). Household income is often not enough to cover the costs of intensive LTC, in particular at older ages when

people rely on pensions and private savings. When financial resources are scarce, for example due to public finance constraints, or if the political process produces relatively low willingness to pay for public services that often involve caring, then both low wages and low employment can follow (Hirsch and Manzella, 2014^[26]).

On average in OECD countries, value added per worker, which reflects wages, capital intensity and profits, in residential and non-residential care sectors is less than half of the economy-wide average. So-called labour- and product-market imperfections, including those driven by entry barriers and monopoly power, result in rents that companies might share with employees. Therefore, more profitable companies or sectors tend to have a high level of value added per worker and to pay higher wages. Moreover, prices of LTC services are often subject to public contracting, which may leave little space for higher wages or profits. On average across OECD countries, value added per worker is equal to 44% of the economy-wide average in the case of residential and non-residential care sectors alone, and to 81% in the case of healthcare (Figure 2.20). Moreover, in their cross-country analysis, Ferragina and Parolin (2021^[39]) show that differences in labour-market and welfare-state institutions, such as collective bargaining coverage, employment protection and social spending, may explain most of the cross-country variation in the extent of low wages in care jobs in the United States and European countries. Chapter 3 discusses collective bargaining in the LTC sector.

Figure 2.20. Value added per worker in residential and non-residential care sectors is lower than in most other sectors

As percentage of the average for all sectors 2020 or latest year



Note: OECD averages for all available countries are presented at the figure. The average of healthcare and social work for countries for which all three series are available was 68%. Health care, residential care and non-residential care are NACE sectors: 86, 87 and 88, respectively.

Source: OECD National Accounts, https://stats.oecd.org/Index.aspx?DataSetCode=SNA_TABLE6A.

StatLink  <https://stat.link/4Is8bi>

The low labour market power of personal care workers contributes to low wages. Groups known to possess low labour market power due to limited labour market opportunities are overrepresented among LTC workers. Given their unequal share in care responsibilities, women are less prone to commute for better-paid jobs and more often tend to prefer part-time and flexible employment. Similarly for migrants, decent job opportunities are scarce due to discrimination, lower language proficiency and legal restrictions on job mobility. Availability of unpaid family care additionally lowers the labour market power of LTC workers. Furthermore, given that the majority of LTC expenditure is financed from public purse in most countries, governments may influence wages of LTC workers directly, when they are the major employer or, indirectly, through setting prices of LTC services.

In some professions, monopsony power by firms could explain why wages are low and employment limited. As a result of their dominant position on local labour markets, large or colluding employers might possess monopsony power that allows them to limit both wages and employment in order to reap larger economic rents. OECD (2022^[40]) empirically assesses the scope of labour market concentration, which is one factor (other factors for example include search frictions) that may lead to monopsony, in OECD countries. In 15 OECD countries, 16% of all workers are in labour markets that are at least moderately concentrated and 10% even work in highly concentrated markets.²⁵

Labour markets for personal care workers are less concentrated than the economy-wide average, hence market concentration does not explain relatively low wages of personal care workers: only 12% of personal care workers work in moderately or highly concentrated labour markets on average in 15 OECD countries.²⁶ Matsudaira (2014^[41]) finds that LTC employers were able to recruit at the market wage as many new nurse-aids – who belong to the personal care workers category – as required by the increased mandatory minimums for staff-to-patient ratios. Furthermore, Prager and Schmitt (2021^[42]) show that an increase in labour market concentration following hospital mergers negatively affected wages of only skilled workers, such as nurses, and did not affect wages of lower skilled workers, such as personal care workers.

Monopsony may indeed affect the wages of nurses more often than those of personal care workers. About one-third of nurses work in moderately or highly concentrated labour markets on average in 15 OECD countries, which is substantially higher than the average for all workers. Additionally, a number of studies show that the own-firm labour supply of nurses does not react strongly to changes in firm wages, suggesting a potentially substantial role of monopsony (Staiger, Spetz and Phibbs, 2010^[43]; Sullivan, 1989^[44]). Yet, Hirsch and Schumacher (2005^[45]) report high mobility of nurses across employers and the low correlation between their wages and hospital concentration. The mixed evidence on the role of monopsony for nurses might be related to the fact that their market power, stemming from e.g. entry regulations discussed above, might offset firms' bargaining power related among others to potentially high labour market concentration.

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Notes

¹ In Sweden, personal care workers can be delegated to prepare, administer or hand over medication. Delegating means giving someone the right to do a work task that they are not otherwise allowed to do.

Healthcare professionals may only delegate a work task to someone else if it is compatible with the requirement for good and safe care. Whoever delegates a work task to someone else must ensure that the person has the conditions to perform the task. Each delegation decision must be documented and the decision must apply for a certain period of time, a maximum of one year, or for a specific occasion.

² Registered nurses, and Licensed practical and licensed vocational nurses are grouped together. The ONET database does not differentiate between nurses working in the LTC sector and in hospitals.

³ The exact name of the task is “Provide medical treatment or personal care to patients in private home settings, such as cooking, keeping rooms orderly, seeing that patients are comfortable and in good spirits, or instructing family members in simple nursing tasks.”

⁴ Australia, while requiring mandatory screening for personal care workers, does not require minimum licences/certifications for entry-level personal care work. However, particular providers may require workers to have formal qualifications.

⁵ For personal care workers, the reported scores are averages for personal care aides, home health aides and nursing assistants.

⁶ National occupational classification might differ from the ISCO, but there are crosswalks that allow map them into ISCO, see for example <https://www.census.gov/topics/employment/industry-occupation/guidance/code-lists.html> or (Rémen et al., 2018_[51]). For the United States, the category Home Health and Personal Care Aides (SOC 31-1120) identifies personal care workers while Registered Nurses, Nurse Practitioners and Licensed Practical and Licensed Vocational Nurses (SOC 29-1141, 29-1171 and 29-206, respectively) identify nurses.

⁷ Crosswalks between various classification is available e.g. [https://ec.europa.eu/eurostat/ramon/relations/index.cfm?TargetUrl=LST_REL&StrLanguageCode=EN&IntCurrentPage=11](https://ec.europa.eu/eurostat/ramon/rerelations/index.cfm?TargetUrl=LST_REL&StrLanguageCode=EN&IntCurrentPage=11).

⁸ Such a detailed classification (three-digit) for both occupations and sectors is not always available and therefore the broader categories (two-digit) are used if there is no choice.

⁹ In Switzerland, healthcare assistants with a federal diploma of vocational education and training are often classified as “nurse associate professionals” and are therefore included in the nurse category. In other countries however, healthcare assistants would often be classified as personal care workers.

¹⁰ Using not fully comparable data, Kim, Kyoung and Lee (2020_[48]) reported that care workers earn on average less than 50% of the average wage in Korea.

¹¹ Compared to the average wage, wages in LTC sectors have increased from 77% to 79% between 1995 and 2019. The average wage in these sectors decreased in nine countries, with Slovenia and Luxembourg showing the largest decrease, while it increased in 12 countries, and by more than 10% in the Czech Republic, Hungary, Ireland, Lithuania, the Slovak Republic and the United Kingdom.

¹² $31\% = 100\% - 77\% / 111\%$.

¹³ Interaction terms between LTC sector and gender, foreign-born and occupation dummies were statistically insignificant (Panel A).

¹⁴ This estimated 14.7% negative effect may reflect the fact that individual skills differentiating the two professions on average are not fully captured by the explanatory factors included in the analysis.

¹⁵ This is slightly less than 14.7% in the restricted sample.

¹⁶ In the full sample, the difference between the dummies for nurse associates and personal care workers is therefore equal to 17.7%, larger than 14.7% estimated in the restricted sample.

¹⁷ Workers whose occupation match their skills generally earn higher wages (Bol et al., 2019^[50]).

¹⁸ Leaving the last job due to the end of temporary contract is pointed by 17% and 24% for former workers in residential care sector and domestic care sector against the average of 21% among former workers in all sectors. Additionally, Yamada and Ishii (2020^[49]) report that in Japan, the main reason for leaving LTC is “low wages” for men and “old age” for women.

¹⁹ The authors estimated a fixed effect model using annual National Longitudinal Survey of Youth from 1982-93.

²⁰ In PIAAC dataset, 80% of personal care workers and nurses in LTC sectors (LTC workers) report being satisfied or extremely satisfied with their jobs, compared to 82% in hospitals and 79% among all workers. (Eurofound, 2020^[9]) reported relatively lower satisfaction of workers in residential and non-residential sectors: 81% were satisfied or very satisfied with their jobs, against 86% both in healthcare and total economy, in EU countries.

²¹ Swedish and German professional carers scored lower in novelty seeking and harm avoidance and higher in self-directedness and co-operativeness than individuals from the general population matched by age and gender (Richter, Åström and Isaksson, 2012^[47]).

²² Prestige measures the perceived value people attach to occupations.

²³ However, increasing strictness of entry regulations does not necessarily increase wages. Law and Marks (2013^[46]) show that making the barriers of entry more strict through a shift from certification to mandatory licensing of nurses in the United States in 1950-70 had little or no effect on their wages.

²⁴ However, in Germany, some nursing care activities may only be performed by people who have been granted authorisation. In Switzerland, a 2020 law (Loi fédérale sur les professions de la Santé LPSan) has created an obligation for local governments to issue licences for nurses with tertiary education.

²⁵ Moderately and highly concentrated labour markets are defined consistently with definitions used by antitrust authorities in the United States.

²⁶ The OECD calculation of the concentration index is consistent with Chapter 3 in OECD (2022^[40]).



From:

Beyond Applause? Improving Working Conditions in Long-Term Care

Access the complete publication at:

<https://doi.org/10.1787/27d33ab3-en>

Please cite this chapter as:

Lis, Maciej and Hervé Boulhol (2023), "Work and wages in long-term care today", in OECD, *Beyond Applause? Improving Working Conditions in Long-Term Care*, OECD Publishing, Paris.

DOI: <https://doi.org/10.1787/b605b60c-en>

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