2 Addressing the shortfall in workers

This chapter explores recent trends in the long-term care (LTC) workforce and the demographic characteristics of LTC workers, and outlines recruitment policies to attract LTC workers in OECD countries. It shows that in most countries the LTC workforce supply has increased more slowly than the number of people aged over 65, and that countries expect shortages of workers in the future. The chapter highlights the predominance of female workers and personal care workers and the important of foreign-born workers in some countries, together with the relative importance of institution-based workers. Several policies could be implemented to find new workers and address the shortfall: widening the pool of applications to recruit younger workers, unemployed people and men; targeting the traditional pool; and improving the image of LTC. However, only half of the countries studied have implemented policies or reforms in any of these directions since 2011.

2.1. Where do countries stand in terms of recruiting long-term care workers?

A previous OECD publication, *Help Wanted? Providing and Paying for Long-Term Care*, drew a comparative picture of the LTC workforce (Colombo et al., 2011[1]). It underlined some of its main characteristics: the overwhelming importance of women, the lack of home-based workers, the limited number of young workers and the importance of personal care workers, who represent most of the LTC workforce. It also raised the urgent need to implement policies to increase the size of the LTC workforce in most OECD countries, especially targeting specific profiles who may represent large sources of new workers: young/old workers, men and foreign-born workers.

Where do OECD countries stand today? The objectives of Chapter 2 are to explore recent trends in countries' LTC workforce supply and characteristics and to review policies implemented in the past decade to target the recruitment of new profiles of workers to LTC. The chapter adds three main contributions to the existing international knowledge. First, it identifies the LTC workforce with better levels of accuracy and validity than previous work. Second, it provides a detailed update on its composition, characteristics and recent recruitment policies. Third, it provides a broader international comparison, extending the coverage to a larger group of countries.

The remainder of the chapter is organised as follows. Section 2.2 shows that demand for LTC has not grown as fast as population ageing in most countries, raising concerns about shortages. Section 2.3 shows that the profile of LTC workers has remained unchanged since 2011, indicating some inertia among countries in the recruitment of new profiles. Section 2.4 shows that less than half of countries implemented recruitment measures to recruit new profiles of workers, and none pursued a strategy of recruiting foreign-born workers from abroad through labour migration channels. Section 2.5 provides a brief conclusion.

Key findings

- The LTC workforce has not increased enough since 2011. Population ageing outpaced the growth of LTC workforce supply in three-quarters of countries.
- Many countries have low numbers of carers relative to the elderly population. The situation is most concerning in eastern and central European countries such as Poland, Romania and the Slovak Republic, where the number of LTC workers represents less than half the OECD average, and where there has been no growth (or sometimes a decrease) in the LTC workforce.
- Most countries expect shortages of LTC workers – even those where the supply is higher than the OECD average (e.g. Australia, Germany, Japan, Norway, The Netherlands and the United States).
- LTC workers' profile has remained unchanged since 2011. On average across countries, women represent more than 90% of the LTC workforce. The median age across countries is 45 years, which is one year and a half years older than the general workforce. Countries face two main age-related issues in the LTC workforce: attracting young workers is difficult and retaining workers aged 50 and over in the workforce is challenging.
- Home-based workers are lacking. While more than half of countries have started to move LTC out of residential facilities and into the community, personal care workers and institution-based workers still represent 70% and 56% of the total LTC workforce, respectively.
- Better policies are needed to attract new LTC workers. Only half of countries have implemented policies or reforms to enhance LTC worker recruitment since 2011. This is leading to challenges for employers seeking suitable applicants for LTC jobs.

- Where recruitment initiatives have occurred, countries have tried to improve the image of LTC or provide incentives to (re)-enter the sector. Some countries (e.g. Belgium, Portugal and the United Kingdom) have tried to improve the LTC image among young workers and students with Proud to Care and Care Ambassadors initiatives. Others (e.g. Cyprus, Israel and Romania) have provided financial support and perseverance grants for LTC education to train unemployed people or support people to come back into the sector (e.g. Japan). Finally, a smaller group (e.g. Germany, Norway, the United Kingdom) has targeted recruitment of men into the LTC workforce.
- On average, foreign-born workers represent over 20% of the OECD countries' LTC workforce. They are important contributors: they stay longer and work more hours than natives. However, most countries do not encourage their recruitment through channelled migration strategies. Only a handful of countries outside the European Union (EU) (Australia, Canada, Japan and Israel) have implemented managed migration channels to facilitate their entry and most initiatives are for nurses, not for personal care workers.

2.2. LTC workforce supply is not increasing enough to meet demand

This section explores recent trends and challenges associated with the recruitment of new LTC workers, who comprise nurses and personal care workers as defined in Annex 2.A. Identifying LTC workers to have a comprehensive picture of their working conditions is not straightforward. This chapter identifies them by cross-referencing industry codes and occupation codes (see Annex 2.A).

2.2.1. Population ageing is outpacing LTC workforce supply

Table 2.1 shows that the number of personal care workers increased in absolute terms between 2011 and 2016 in three-quarters of countries. Some countries saw opposing trends for personal care workers at home and in institutions. In Australia, Estonia, Hungary and the Slovak Republic, the number of personal carers at home decreased, while the number working in institutions increased. In Denmark and the United Kingdom, the opposite was true.

Similarly, the number of nurses working in LTC has increased in three-quarters of countries since 2011. For a number of countries, including Canada, Estonia, Germany, Israel, Japan, Korea, Luxembourg, Portugal, Switzerland and the United States, the nurse workforce increased for those working both at home and in institutions. These findings are consistent with an overall increase in supply of nurses observed among OECD countries that implemented efforts to increase nurses' training, retention rates and working conditions. On average, the overall number of nurses per 1 000 people in OECD countries doubled over the period 2000-15 (OECD, 2017[2]). Australia is the only country where the number of LTC nurses declined (both at home and in institutions) between 2011 and 2016.

Half the countries (Canada, Germany, Israel, Japan, Luxembourg, Portugal, Switzerland and the United States) were able to increase the numbers of both personal care workers and nurses.

Despite these overall increases in the number of LTC workers, the supply per 100 elderly people has not increased in most countries since 2011 (Figure 2.1). Data show that the LTC workforce has stagnated or declined even in most of the ten countries where its size was the largest in 2016. Several countries, including Israel (+1.2) Croatia (+0.8) Germany (+0.6), Luxembourg (+0.5), and Japan (+0.4), experienced an overall small increase in the number of LTC workers per 100 people aged 65+. There are on average five LTC workers per 100 people aged 65 and over across 28 OECD countries, including six LTC workers per 100 older people in the United States and Japan.

These trends show that the increase in LTC workforce supply was outpaced by population ageing in most countries, as the number of elderly people grew more rapidly than the number of LTC workers. This situation is concerning because a large proportion of the elderly population face LTC needs. On average, across 26 European countries half of adults aged over 65 reported that they faced limitations in their capacity to handle activities of daily living in 2015 (OECD, 2017[2]). Over the past decade the increase in the number of people aged 80+ has outpaced the change in the number of LTC workers in several countries (e.g. Estonia, the Slovak Republic, the Netherlands, Ireland, Spain, Hungary and Japan), and on average half of LTC recipients are over 80 years old in OECD19 countries (OECD, 2017[2]).

Table 2.1. The numbers of LTC workers grew in most OECD countries

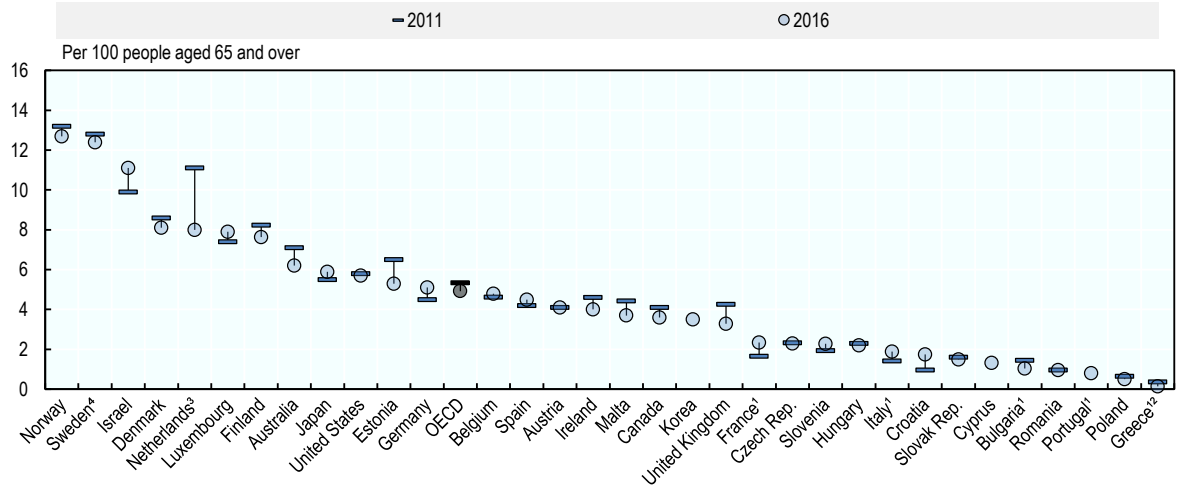
Country	Personal carers at home	Personal carers in institutions	Nurses at home	Nurses in institutions	Personal carers (at home and in institutions)	Nurses (at home and in institutions)
Australia	-	+	-	-	+	-
Canada	+	+	+	+	+	+
Denmark	+	-	+	+	-	+
Estonia	-	+	+	+	-	+
France	n.a.	-	n.a.	-	n.a.	n.a.
Germany	+	+	+	+	+	+
Hungary	-	+	+	-	-	+
Ireland	+	+	n.a.	-	+	n.a.
Israel	+	+	+	+	+	+
Japan	+	+	+	+	+	+
Korea	+	+	+	+	+	+
Luxembourg	+	+	+	+	+	+
Netherlands *	-	-	+	-	-	+
New Zealand	-	n.a.	-	n.a.	n.a.	n.a.
Portugal	+	+	+	+	+	+
Slovak Republic	-	+	n.a.	-	+	n.a.
Switzerland	+	+	+	+	+	+
United Kingdom	+	-	n.a.	n.a.	+	n.a.
United States	+	+	+	+	+	+

Note: – represents a decrease, + an increase in number (headcount) between 2011 and 2016 (or nearest year); "n.a." represents "not applicable".
* Variations in the Netherlands may be due in part to a methodological break in 2012 as well as reforms (see Box 2.1).
Source: OECD Health Statistics 2018, https://doi.org/10.1787/health-data-en.

The situation is very concerning in some eastern and central European countries (Poland, Romania and the Slovak Republic), where the stock of LTC workers represents less than half the OECD average, and where no growth or even a small decrease has been seen in the LTC workforce. Several reasons contribute to explaining the limited supply of LTC workers in these countries. Families still represent the main source of LTC provision. Lacking or poor infrastructures in very rural areas contribute to reducing development of the LTC workforce supply (especially for home-based services) (Genet et al., 2013[3]). Many eastern European countries are also facing emigration of their LTC workforce: despite the high needs for LTC provision, many nurses are emigrating to participate in other countries' LTC workforces, where they are offered better wages and working conditions (OECD, 2016[4]). Finally, the financial crisis has negatively affected public spending directed towards LTC: it remains low in most of these countries (OECD, 2017[2]), and because LTC is a labour-intensive sector, low spending often means a low supply of workers.

Figure 2.1. The population aged 65+ grew at the same pace or faster than LTC workforce supply in most countries

Number of LTC workers per 100 individuals aged 65 and over, 2011 and 2016



Note: The OECD data point is the unweighted average of the 28 OECD countries shown in the chart. EU-Labour Force Survey data are based on the International Standard Classification of Occupations (ISCO) 4-digit codes and the Nomenclature Statistique des Activités Economiques dans la Communauté Européenne (NACE) 2-digit codes.

1. Data are based on ISCO 3-digit and NACE 2-digit codes. 2. Data must be interpreted with caution as sample sizes are small. 3. The decrease in the Netherlands is due in part to a methodological break in 2012 but also to reforms in the sector (see Box 2.1). 4. Data refer only to the public sector.

Source: EU-Labour Force Survey and OECD Health Statistics 2018, https://doi.org/10.1787/health-data-en, with the exception of the Quarterly Labour Force Survey for the United Kingdom and the Annual Social and Economic Supplement of the Current Population Survey (ASEC-CPS) for the United States; Eurostat Database for population demographics. Data refer to 2011 and 2016 or nearest year.

Some southern European countries (Italy and Portugal) have low numbers of total available carers for elderly people. For instance, the Portuguese LTC system is under high pressure to change the way it operates, as a lack of funding contributes to long waiting lists and considerable out-of-pocket contributions. While more investment needs to be made to secure an effective LTC workforce, there is no sign of a long-term commitment either to raise workforce numbers in the face of future shortages or to improve skills.

It is important to note that a decrease or stagnation of the LTC workforce supply per 100 people aged 65 and over has also been observed in countries where the LTC workforce supply is sizeable (Belgium, Scandinavian countries and the Netherlands). Among these, the Netherlands has seen the greatest reduction in LTC workforce supply since 2011 (see Box 2.1 for an explanation). The decline in supply of LTC workers per 100 people aged 65 and over may be less of a concern in Sweden and Norway, where healthy life expectancy among elderly people is among the highest in OECD countries, and where the proportion of elderly people facing limitations in activities of daily living is far below the OECD average: 17.7% in Sweden and 22.9% in Norway vs. 68.3% for OECD (OECD, 2017[2]).

Low staffing ratios can raise concerns about the quality of care (de Bienassis, Llena Nozal and Klazinga, forthcoming[5]). To ensure an adequate level of care, some countries have requirements regarding staffing standards related to the number of workers needed and/or their competences. For instance, the United States requires that certified nursing homes have at least one registered nurse on duty for 8 consecutive hours 7 days a week (Harrington et al., 2012[6]). In Canada, staffing standards are set at the provincial level, of which three required the staffing of a registered nurse director of nursing and seven required a registered nurse to be on duty at all times (Harrington et al., 2012[6]). In France, the latest recommendations proposed to increase the staffing ratio in nursing homes by 20% by 2024, up from 62.8

full time equivalent staff per 100 residents in 2015 (an equivalent of 66 500 additional full time equivalent positions) (El Khomri, 2019[7]). In Germany, a scientifically based skill mix determination tool is being developed to establish adequate staffing levels and numbers in nursing homes. The tool will take into account (1) the mix of care interventions required per resident, (2) the required time per person per intervention, and (3) the assessed qualification level of the person providing the intervention. Preliminary results suggest that substantially more nursing assistants will be required to achieve optimal nursing home staffing levels, but only a small number of additional specialist nurses will be needed (Rothgang, Fünfstück and Kalwitzki, 2020[8]; de Bienassis, Llena Nozal and Klazinga, forthcoming[5]).

Box 2.1. The LTC workforce supply decreased in the Netherlands between 2011 and 2016

Two reasons may contribute to explaining why the LTC workforce has been decreasing in the Netherlands since 2011:

- First, recent evidence shows that the LTC reform introduced in 2015 increased budgetary pressure on municipalities, which led to negotiation of lower tariffs (Maarse and Jeurissen, 2016[9]). Moreover, the reform led to closure of homes for elderly people and lay-offs of LTC staff hired through municipal contracts (mostly nurses with lower education levels). A challenge is to get these staff back into the LTC workforce, particularly because the image of LTC employers suffered greatly from these lay-offs. While the need for "hands on beds" is increasing, the government is expecting a shortage of workers mounting to around 130 000 professionals in the total care sector within the next four years.
- Second, according to OECD Health Statistics, the number of LTC workers per 100 elderly people decreased from 11.1 to 8 between 2011 and 2016. A methodological break was reported in 2012, and the number of LTC workers per 100 elderly people decreased from 2011 to 2012. However, the methodology did not change after 2012 and the rate slowed from 10.6 to 8 LTC workers per 100 elderly people between 2012 and 2016.

In addition, the Netherlands faces a structural shortage of workers in care (not only in LTC). The Ministry of Health reports that an extra 70 000 workers are needed to meet current demand, and that without further action the deficit will be between 100 000 and 120 000 people for the entire care sector by 2020.

2.2.2. Home-based workers are increasingly needed

Historically, most countries have provided LTC in institutions. A non-exhaustive list of institutions includes medical and health care facilities, rehabilitation facilities, specialised institutions for providing social services and social care establishments with accommodation.

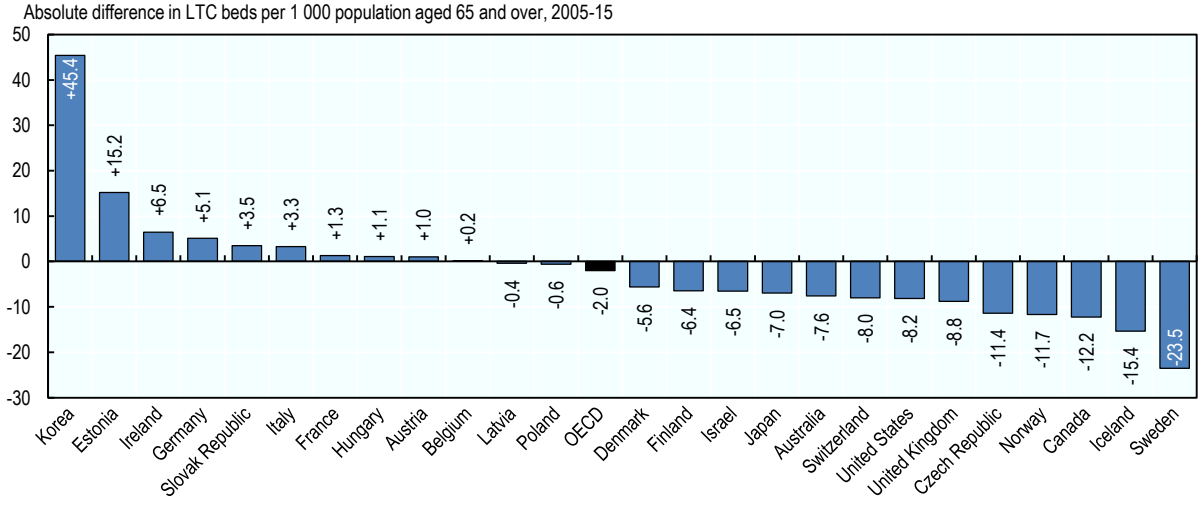
However, over the past few decades, many countries have supported a "deinstitutionalisation" LTC strategy, promoting home-based care solutions in order to match elderly people's preferences for home-based ageing and contain LTC spending. In addition to enhancing home-based services, these countries have promoted use of community-based facilities as, for instance, hospices for terminally ill people, day care centres and homes for disabled people. Figure 2.2 shows that more than half of countries have started to move LTC out of residential facilities and into the community (OECD, 2017[2]).

Some countries have only recently embarked on the deinstitutionalisation of their LTC systems. This is the case in the Czech Republic, for example, which increased its efforts to develop home-based care later than many western European countries. Surprisingly, the home-based care workforce supply declined just after the introduction of the Act on Social Services (between 2008 and 2012). This can be explained by the cost of this policy for municipalities, which have to monitor and supervise the home-based care

workforce supply (Kubalčíková and Havlíková, 2016[10]). Belgium has also historically provided care in institutions: availability of beds is one of the highest among OECD countries, and 74% of LTC workers are based in institutions. Two measures (Protocol 3 and the Flemish Home and Care Decree) have been implemented to ensure that home-based prices remain low: they are defined at the federal and community levels, and ceiling amounts per year have been introduced for nursing. Hungary engaged its deinstitutionalisation process in 2011, with the creation of a National Body for the Co-ordination of Deinstitutionalisation. The strategy aims to deinstitutionalise 10 000 people with disabilities, moving them from large residential institutions to community-based forms of housing.

Figure 2.2. More than half of countries have started to move LTC out of residential facilities and into the community

Trends in LTC beds in institutions, 2005-15 (or nearest year)



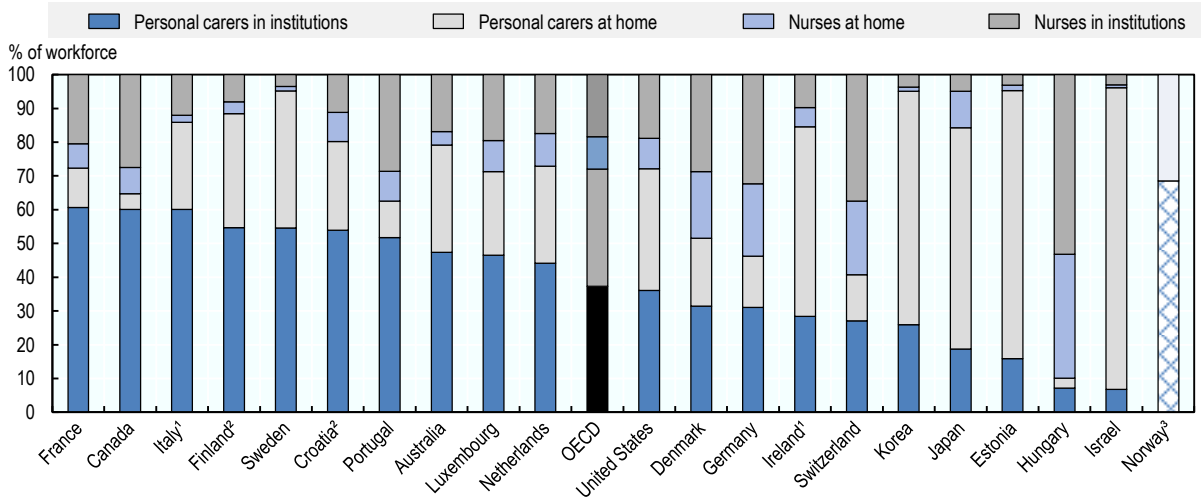
Note: The OECD25 data point is the unweighted average of the 25 countries shown in the chart.
Source: OECD Health Statistics 2017, https://doi.org/10.1787/health-data-en (data refer to 2005 and 2015 or nearest year).

A few countries, however, have followed the opposite trend and experienced large increases in institution beds over the past decade. Among these, Korea and Estonia experienced the largest increases (+45.4% and +15.2%, respectively). Despite a large supply of home-based workers, the LTC Insurance Programme in Korea favours institution-based care over home-based care. The average proportion of elderly people using home-based services has steadily decreased since 2009, and home-based support relies greatly on informal care provision (Sunwoo, 2017[11]), meaning that informal caregivers face large burden levels and health issues (Do et al., 2015[12]). In Estonia, nursing care services have been reorganised via two plans: the Nursing Care Master Plan 2015 and the Hospital Master Plan 2015 (Somanathan et al., 2017[13]). These led to the creation of "nursing care hospitals", which provide inpatient and outpatient LTC. In parallel, local municipalities provide several services (including domestic care and social transport services), while the state provides special care services for elderly people with severe disabilities (including, for instance, everyday life support services, community living services and 24-hour special care services). The Social Welfare Act of 2015 requires that municipalities offer at least 13 services, ranging from domestic to alarm-button services. However, the home-based workforce supply is currently too fragmented in Estonia to cover needs, and institution-based care and informal care meet most of the demand. Other countries have experienced small increases in the supply of beds. In France, for instance, four national plans since 2003 (Vieillissement Solidarité 2003-06, Solidarité Grand Age 2007-12, Plan Alzheimer 2008-12 and Plan Maladies Neurodégénératives 2014-19) led to expansion of the bed supply in institutions between 2005 and 2015 (Muller, 2017[14]; CNSA, 2017[15]).

Despite the deinstitutionalisation trends found in many countries, institution-based workers still represent the bulk of the workforce in most countries (see Figure 2.3). Institutions still cater for most disabled people and hence require more workers. Some countries, like Portugal, continue to heavily rely on residence-based care. Communities are not yet prepared to take care of complex cases, although pilots for home-based integrated care exist. Across 19 OECD countries, 56% of LTC workers are based in institutions. However, this share varies widely by country, reaching 88% in Canada and 81% in France, but below a quarter in Japan, Estonia and Israel. In most countries, both nurses and personal care workers are more likely to work in institutions.

Figure 2.3. Home-based workers and nurses often represent a small share of carers

Composition of the LTC workforce, selected countries, 2016 (or nearest year)



Note: The OECD data point is the unweighted average of the 19 OECD countries shown in the chart. EU-Labour Force Survey data are based on ISCO 4-digit and NACE 2-digit codes. Data are not displayed for European countries when the sample sizes for the LTC nurse workforce are too small and therefore not reliable.
1. Data are based on ISCO 3-digit and NACE 2-digit codes. 2. Data must be interpreted with caution as sample sizes are small. 3. Data for Norway do not have a breakdown by setting; 70% of LTC workers are personal carers.
Source: OECD Health Statistics 2018, https://doi.org/10.1787/health-data-en; EU-Labour Force Survey (data refer to 2016 or nearest year).

Because more than half of the countries are transferring public LTC spending away from residential care and towards home-based care (Table 2.2), it is expected that the situation will change in the future and that the proportion of home-based workers will increase. Indeed, LTC is very labour intensive, and most public LTC expenditure is on services provided by workers. The situation is likely to change rapidly in countries that have implemented large programmes to balance LTC spending. For instance, in the United States, the 50/50 balance between home-based and institution-based Medicaid spending was reached in 2013. The Balancing Incentive Program (BIP) led to investment of USD 2.4 billion over 2011-15 in 21 selected states that committed to increase state-level investments towards home-based services. To be eligible for the BIP, states had to spend less than 50% of their total Medicaid medical assistance expenditure on non-institutionally based long-term services and support for fiscal year 2009.

A few countries already have a larger home-based LTC workforce supply. In Japan and Israel, institution-based workers represent less than a quarter of the overall LTC workforce. Japan actively promotes community-based disability prevention and healthy ageing. Since 2011, the Japanese LTC Prevention Project has focused on three main objectives: to strengthen social connections of older people in their community, irrespective of their age and mental/physical conditions, and help their proactive efforts to

organise exercise classes and other local gatherings; to use professionals with rehabilitation knowledge in their community to help older people live independent lives; and to develop a local community in which older people can live worthwhile lives and play a role, even if they are in serious need of LTC. The situation in Israel is explained by a lack of LTC nurses both at home and in institutions, and by the fact that the LTC system relies heavily on the work of home-based personal care workers, who represent almost 90% of the total LTC workforce.

Table 2.2. Public spending on LTC home-based LTC care increased

Absolute changes in LTC public spending allocated to inpatient and home-based care over the period 2011-16 (or nearest year)

Country	Inpatient-based	Home-based
Austria	-0.88%	0.55%
Belgium	-5.11%	5.80%
Canada	0.95%	-0.96%
Czech Republic	0.04%	-3.96%
Denmark	-1.11%	1.11%
Estonia	-2.91%	2.98%
Finland	-3.74%	3.74%
France	0.26%	-0.26%
Germany	-5.48%	4.91%
Greece	-2.85%	2.85%
Hungary	1.64%	-3.02%
Iceland	-0.89%	1.10%
Ireland	-1.76%	2.02%
Italy	1.05%	0.23%
Japan	-3.82%	1.62%
Korea	3.32%	-4.82%
Latvia	-8.82%	4.92%
Lithuania	-1.55%	1.70%
Netherlands	-4.38%	5.22%
Norway	-5.61%	5.61%
Poland	-3.35%	3.20%
Portugal	5.82%	-5.82%
Slovenia	-0.26%	0.04%
Spain	1.50%	-1.08%
Sweden	-1.99%	2.52%
Switzerland	-2.92%	2.92%

Note: Due to methodological breaks, Canada and Finland compare 2015 to 2017.
Source: OECD Health Statistics 2018, https://doi.org/10.1787/health-data-en.

The lower prevalence of nurses in the LTC workforce is found in most countries. On average in OECD countries, about 70% of LTC workers are personal care workers. In a few countries (Estonia, Israel, Korea and Sweden), 90% of LTC workers are personal care workers.

The only exceptions are Germany, Hungary and Switzerland, where the supply of nurses is greater than the supply of personal care workers. In Switzerland, personal care workers represent 41% of the LTC workforce. Switzerland relies heavily on immigration, and more specifically on foreign-born nurses. In Hungary, social help for elderly people with low needs can be provided by social carers without relevant education in the framework of volunteering or public sector employment, but professional education is required to provide personal care for elderly people with more intensive needs. Consequently, nurses

provide most LTC. Fully qualified nurses have been a key component of the German LTC workforce since the early 2000s. However, this situation may change in the future and nurses may be lacking, as Germany faces two main challenges associated with the difficulty of attracting highly qualified nurses into the LTC workforce and the ageing of the reservoir of nurses (fully qualified geriatric nurses).

2.2.3. Shortages of LTC workers are foreseen

Several factors contribute to fuelling demand for LTC services in most countries. First, the ageing of the postwar "baby-boomer" generation is likely to increase frailty and disability trends, raising new needs for LTC services (Lin et al., 2012[16]; Lynn, 2013[17]). In particular, preferences of elderly people towards more independent living have been changing. Second, research has documented the increase in burden of care issues observed among informal care providers, whose workload has increased dramatically over recent decades (Kikuzawa, 2015[18]), and observed that the use of institution-based care solutions can contribute to reducing that burden (Rapp, Apouey and Senik, 2018[19]). Third, several factors contribute to reducing availability of informal caregivers: birth rates have been declining over the past few decades; more mobility is observed across society; there are more nuclear families; and the number of working women has been growing (OECD, 2017[2]).

Consequently, shortages of LTC workers are expected and countries urgently need to recruit to the workforce. For instance, studies show the number of LTC workers will decrease in Germany and Poland and stagnate in the Netherlands, while demand for LTC services will increase in the coming decades (Geerts, 2011[20]). In Japan, there are also concerns that the increasing demand for formal LTC providers may lead to shortages. Despite an increase in its supply of LTC workers per 100 people aged 65 and over, the Japanese government forecasts that the LTC workforce needs to increase by 12% (250 000 new workers) to meet growing LTC demand by 2020. Needs are increasing dramatically, as people aged 65 and over will represent 27% of Japan's overall population by 2050. In the United States, the Institute of Medicine reports widespread consensus that there were insufficient numbers of licensed direct care staff to deliver the LTC required by the population (Institute of Medicine, 2008[21]) and recent evidence underlines the existence of shortage issues within the LTC workforce (Frogner and Spetz, 2015[22]) (Osterman, 2017[23]). In Australia, predictions shows that the LTC workforce will need to increase to 980 000 workers by 2050 in order to prevent shortages, a nearly threefold increase from 366 000 workers in 2016 (Mavromaras et al., 2017[24]). In France, it is estimated that over 150 000 full-time equivalent workers will be needed by 2030 (Libault, 2019[25]). A more recent report in France estimated that about 92 300 full-time equivalent positions would be needed by 2024, among others because population ageing would require the creation of 20 700 positions and improved working conditions (via the increase by 20% of the ratio of LTC workers by person with a loss of autonomy) would require another 66 500 FTE positions. Another scenario taking into account current unfilled positions, turnover and retirement showed that over 350 000 people would need to be trained by 2024 in France to be able to address the LTC needs while ensuring decent working conditions (El Khomri, 2019[7]). In Ireland, while the public sector does not report significant shortages, they exist in the private LTC sector.

The importance of future needs varies across types of worker. In Norway, a large proportion of health care workers with secondary school education are more than 50 years old and will retire in 10-15 years (Stølen and Texmon, 2010[26]). While the supply of auxiliary nurses may stay constant, that of occupational therapists may decrease in the future. For health and social care personnel educated at the tertiary undergraduate level, a combination of growth in demand and modest growth in supply will cause rising shortages of nurses, physiotherapists and health visitors in the decades to come. For social workers, a strong increase in educational capacity during the 1990s causes projections to show growing excess supply. In the United States, demand for occupational therapists is already strong (especially for those specialising in geriatrics), and is expected to outpace supply for all 50 states in the coming decades (Lin, Zhang and Dixon, 2015[27]).

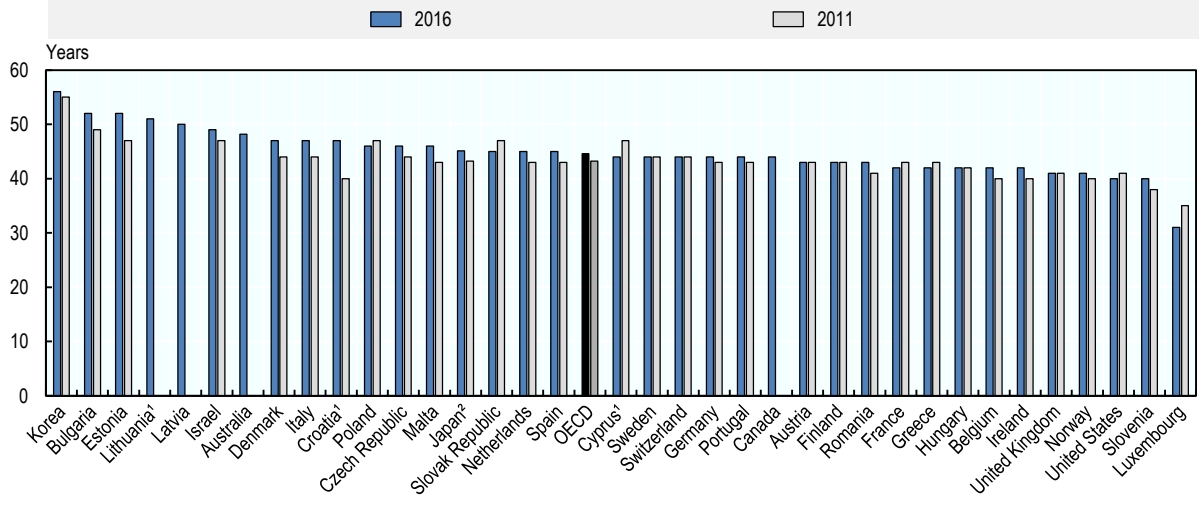
Increasing shortages of LTC workers may have a severe impact on care quality (Harrington et al., 2012[28]) and result in unmet care needs. In the United States, demand for LTC occupations has become one of the ten fastest growing over the past 20 years; by 2024, the LTC demand growth rate is predicted to reach 30% (Bureau of Labor Statistics and U.S. Department of Labor, 2015[29]). Because of shortages of services, it is estimated that over 2 million older US citizens based in the community experienced an adverse consequence (such as soiled clothes) at least once due to an unmet self-care need, and that over 3 million people suffer from the adverse consequences of unmet needs for assistance with mobility-related activities, representing one-third of people requiring LTC care in settings other than nursing homes (Allen, Piette and Mor, 2014[30]). For community residents with a paid caregiver, this figure rises to 60% (Freedman and Spillman, 2014[31]). In Canada (Alberta), findings suggest that hospital admission rates are higher in publicly funded assisted living facilities that have no licensed practical nurse or registered nurse on site, or one on site less than 24/7 (Hogan et al., 2014[32]). This situation leads frail elderly people to use more expensive care solutions, as a direct consequence of the lack of proper LTC services. Moreover, a higher number of care hours provided by nurse assistants per resident per day is associated with better quality of care in institutions in Ontario (Boscart et al., 2018[33]).

2.3. LTC workers' profiles are unchanged

2.3.1. Most LTC workers are middle-aged women

Prior work underlined that the LTC workforce was ageing (Colombo et al., 2011[1]). In Australia, up to 70% of the LTC workforce are aged 45+; in Japan, 42% are aged 50+ (Scheil-Adlung, 2015[34]). Figure 2.4 confirms that the median age across OECD countries is 45, which is one year and a half older than the median age in the overall workforce. Data also show that the median age has remained fairly stable in most OECD countries since 2011. Young workers comprise a relatively small share of the LTC workforce. Those under 26 represent only 13% of the LTC workforce in EU countries.

Figure 2.4. The median age of LTC workers is 45 years old across OECD countries



Note: The OECD data point is the unweighted average of the 30 OECD countries shown in the chart. For European countries, LTC workforce supply covers nurses and personal workers who do not work in hospital and education.
1. Data must be interpreted with caution as sample sizes are small. 2. Data refer to the average.
Source: EU-Labour Force Survey; ASEC-CPS for the United States; National Health Insurance System for Korea; Census 2016 for Canada; Labour Force Survey for Israel, Survey on Long-term Care Workers 2016 for Japan; OECD estimate based on national source for Australia. Data refer to 2011 and 2016 or nearest year.

The two main age-related issues in the LTC workforce are that attracting young workers is difficult and retaining workers aged 50+ is challenging. Indeed, young female workers tend to be attracted by sectors that have a better image than LTC, such as childcare or hospital care. Moreover, the oldest workers are likely to experience health issues (such as back problems) and can face increasing difficulties with carrying out LTC tasks like transporting and moving elderly people; this reduces the probability of staying into the workforce after a certain age. Micro-econometric analyses confirm the difficulty of attracting young and old workers into the LTC workforce. Indeed, Box 2.2 shows that middle-aged LTC workers are those who work the longest in the United States (working hours and tenure) and in the United Kingdom (working hours).

Box 2.2. Engagement in the LTC workforce varies across the life cycle

Micro-econometric analyses suggest the presence of a non-linear association between age and LTC workforce participation; they confirm that middle-aged workers produce the highest volume of care and have greater retention rates (Table 2.3). Results are estimated using regressions that included variables on age, age-squared, education categories (low vs. medium, low vs. high), foreign-born status (yes vs. no), number of children (0 vs. 1, 0 vs. 2, 0 vs. 3 and 0 vs. 4+), gender, ethnicity (white vs. other) and year dummies. In the model exploring the correlation between age and hours worked per week, the dependent variable is log-transformed. The two other models are linear probability models.

- In the United Kingdom, working time per week is highest when LTC workers reach 34 years of age, and the probability of working full time reaches its maximum value at 35. However, older people are more likely to have longer tenure: having at least two consecutive years of tenure increases as age increases.
- In the United States, the number of hours provided by LTC workers is highest at 46 years of age, and the probability of being employed full time is at the maximum at 43. The probability of staying at least two consecutive years in the LTC workforce is highest when workers are 51 years old.

Table 2.3. Age at which LTC work participation is highest

Results from multivariate analyses – estimations from samples of LTC workers

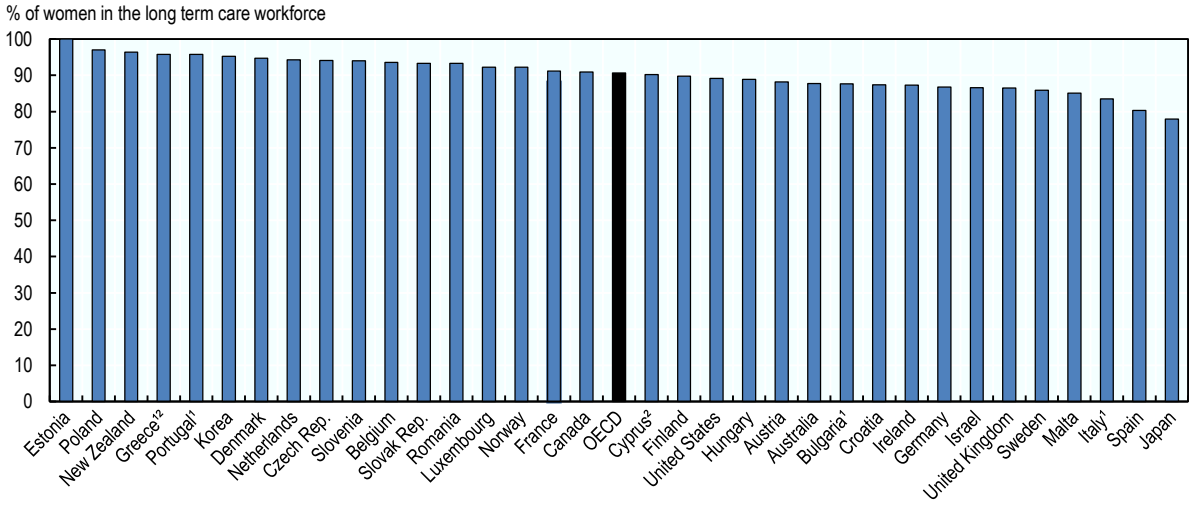
	Age at which most hours worked per week	Age with highest probability of full-time work	Age with highest likelihood of 1+ year tenure
United Kingdom	34	35	n.s.
United States	46	43	51

Note: n.s. = non-significant (10% level threshold). In the United States, tenure regressions estimate the probability of staying two consecutive years in the LTC workforce, while in the United Kingdom, tenure regressions estimate the probability of staying two consecutive years with the same employer. All regressions for the United Kingdom control for a dichotomous variable describing whether the worker lives in Great Britain or in Northern Ireland. All regressions for the United States control for state-level fixed effects.
Source: Pooled cross-sections of UK Labour Force Survey (UK-LFS) (2012 to 2016) and ASEC-CPS (2012 to 2016).

Women represent more than 90% of the LTC workforce (Figure 2.5). The overwhelming participation of women in the LTC workforce was observed in 2011 (Colombo et al., 2011[1]). LTC jobs are traditionally considered to be feminine and, while this perception may be changing slowly, stigma is still attached to men performing them. This large share of women among LTC workers contrasts with the share of women in more skilled health occupations such as physicians, where under half are female across OECD countries.

Figure 2.5. Women represent the overwhelming majority of LTC workers in all countries

Share of women in the LTC workforce, 2016 (or nearest year)



Note: The OECD data point is the unweighted average of the 29 OECD countries shown in the chart. EU-Labour Force Survey data are based on ISCO 4-digit and NACE 2-digit codes.
1. LTC workforce supply data are based on ISCO 3-digit and NACE 2-digit codes. 2. Data must be interpreted with caution as sample sizes are small.
Source: EU-Labour Force Survey; OECD Health Statistics 2018, https://doi.org/10.1787/health-data-en; Survey on Long-term Care Workers 2016 for Japan; OECD estimates based on national sources for Australia and New Zealand. Data refer to 2016 or nearest year.

2.3.2. Foreign-born workers represent an important proportion of LTC workers in some countries

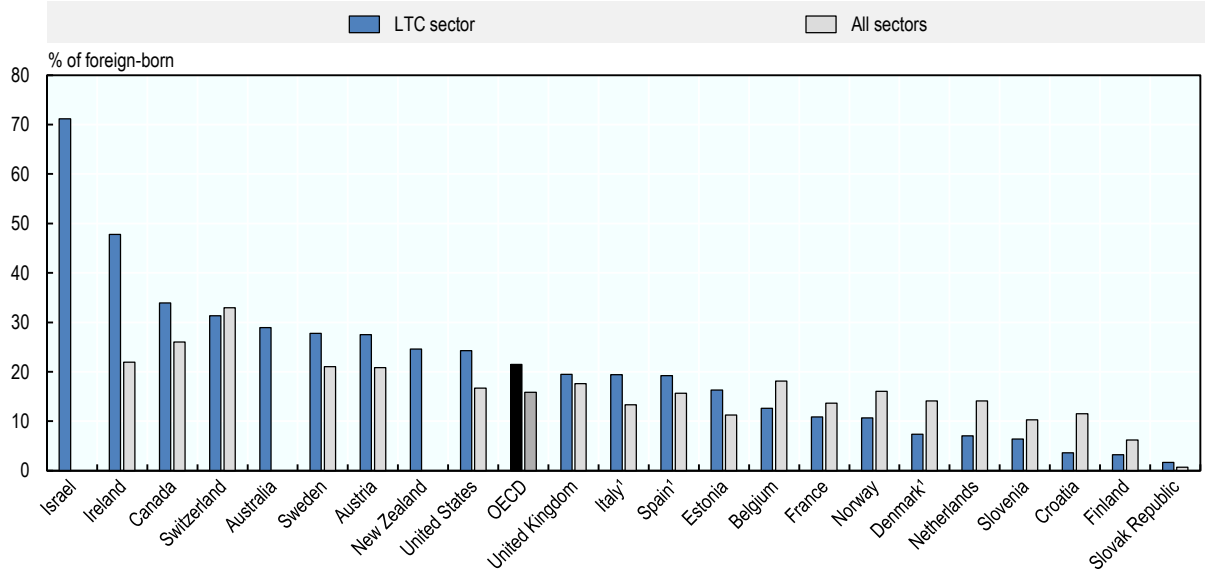
On average, the share of foreign-born workers in LTC represents twice the overall share of foreign-born in the total population. The share in the LTC workforce is highest in Israel (71%), Ireland (48%), Canada (34%), Switzerland (31%) and Australia (29%) (Figure 2.6). In these countries, foreign-born people represent over 20% of the population. However, countries where the foreign-born population is high do not necessarily have the largest share of foreign-born workers in LTC.

The importance of foreign-born workers in the LTC workforce is more limited in the Netherlands and some Nordic countries (Finland, Denmark and Norway) compared to continental and southern European countries and the United Kingdom. These data are consistent with earlier evidence (Da Roit and van Bochove, 2015[35]).

While cross-country variation is often related to the overall share of foreign-born people in the population, foreign-born workers tend to be over-represented in the LTC sector in OECD countries: over 20% of carers in the LTC sector are foreign-born across OECD countries, a share relatively higher than across workers all sectors. This share is especially large in some countries such as Israel, Canada and Ireland. This may be the result of specific migration policies (as in Israel) or of a lack of opportunities in other sectors. It can also reflect the degree of institutionalisation of the LTC system (such as in Belgium). At the same time, these statistics often fail to include live-in home care work, where foreign-born workers might be over-represented in some countries (such as Italy and Spain).

Figure 2.6. Over 20% of LTC workers are foreign-born in OECD countries

Share of foreign-born among the LTC workforce, 2015 (or nearest year)



Note: The OECD data point is the unweighted average of the 21 OECD countries shown in the chart for which data are available about the LTC sector and across all sectors. EU-Labour Force Survey data are based on ISCO 4-digit and NACE 2-digit codes.
1. Data are based on ISCO 3-digit and NACE 2-digit codes. 2. Data must be interpreted with caution as sample sizes are small.
Source: EU-Labour Force Survey; ASEC-CPS for the United States; Census 2016 for Canada; LFS for Israel; OECD estimates based on national sources for Australia and New Zealand. Data refer to 2015 or nearest year.

The size of the foreign-born workforce varies little across LTC professions. In Belgium and in the United States, the share of foreign-born workers is slightly larger among personal care workers than among nurses; in other countries, proportions are about the same for both (they represent over 20% in Ireland, and Austria). In Germany, currently around 11% of nurses are foreign-born, a share that has risen from 7% in 2013.

In most European countries, the share of foreign-born workers is greater among institution-based providers than among home-based care providers. In the United States, more foreign-born workers are in home-based care than in institutions; similarly, in Australia, 32% of institution-based workers are migrants, while the share is 23% among home-based workers (Mavromaras et al., 2017[24]). At the same time, in several countries in southern Europe and in the Netherlands there is a grey market for live-in home care workers with a high incidence of foreign-born workers (Da Roit and van Bochove, 2015[35]).

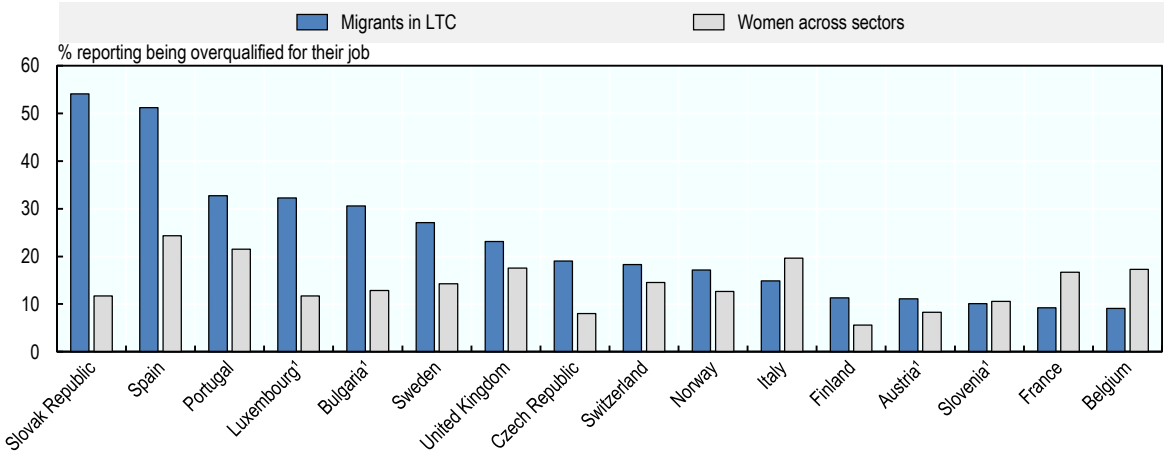
Foreign-born LTC workers are often young and usually highly skilled (nurses in their home country). They have often migrated because of the geographical proximity, language, culture and wealth of the host country, and usually come to the host country to work at a lower level than the one for which they are qualified (Colombo et al., 2011[1]). The overqualification of foreign-born workers has been documented in recent work for countries like Canada, Spain, the United Kingdom and the United States (The Global Ageing Network Leading Age LTSS Center@UMass, 2018[36]). In most European countries, the share of migrants reporting that they are overqualified for the work they do is greater in the LTC sector than any other (see Figure 2.7).

LTC workers follow the common migration routes between lower- and higher-income countries (Luppi et al., 2014[37]). Several countries are primarily sources of outflows: the Philippines, India, Mexico, Romania, Poland, Bulgaria, Nigeria, Kenya and Liberia. Among these, the Philippines, Mexico, Romania, Poland and Bulgaria were in the top 20 countries of origin of new immigrants to OECD countries in 2015

(OECD, 2017[38]), and a proportion of these flows were driven by demand for LTC workers. Figure 2.8 shows the distribution of workers across continents.

Figure 2.7. Migrants report being overqualified more frequently in the LTC sector

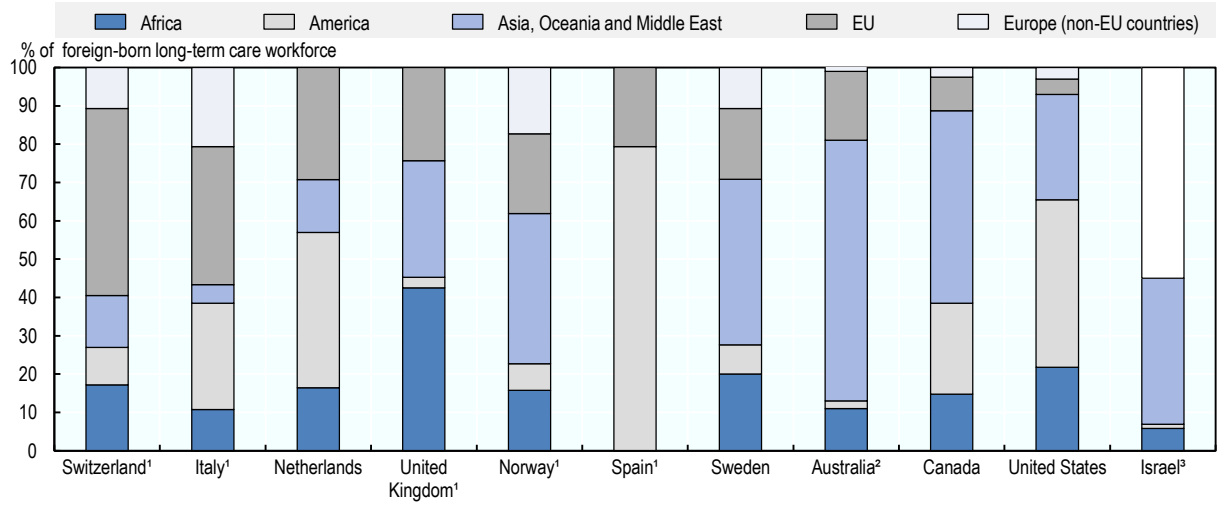
Proportion of overqualified workers among the migrants in LTC and women across sectors, 2013



Note: EU-Labour Force Survey data were calculated based on ISCO 3-digit and NACE 2-digit codes.
1. Data on migrants must be interpreted with caution as sample sizes are small.
Source: Ad hoc module EU-Labour Force Survey for data on migrants; OECD Statistics 2019 for data on the female general population (data refer to 2013).

Figure 2.8. Foreign-born workers' regions of origin vary widely

Composition of the foreign-born LTC workforce, by world region of birth, 2015 (or nearest year)



Note: Data were calculated based on ISCO 3-digit and NACE 2-digit codes. Countries of birth were grouped by localisation and, for European countries, membership of the EU: Africa, America, EU, Europe (non-EU) and lastly Asia, Oceania and Middle East.
1. Data must be interpreted with caution as sample sizes are small. 2. Australia's data cover only nurses in residential health care. 3. The white category for Israel refers to European countries (EU and non-EU countries) and America and Oceania are grouped together (in light grey), as Asia and Middle East (in light blue).
Source: EU-Labour Force Survey; ASEC-CPS for the United States; Census 2016 for Canada; Labour Force Survey for Israel. Data refer to 2015 or nearest year.

Micro-econometric analyses suggest that foreign-born workers are important LTC workforce contributors. In both the United States and the United Kingdom, they work more hours and tend to have higher retention rates than natives (Box 2.3).

Box 2.3. Foreign-born workers tend to work more than natives

Micro-econometric analyses in the United States and the United Kingdom suggest that foreign-born carers work generally more than natives. Results were estimated using regressions that include variables on age, age-squared, education categories (low vs. medium, low vs. high), foreign-born status (yes vs. no), number of children (0 vs. 1, 0 vs. 2, 0 vs. 3 and 0 vs. 4+), gender, ethnicity (white vs. other), and year dummies. In the model exploring the correlation between age and hours worked per week, the dependent variable was log-transformed. The two other models were linear probability models.

On average, foreign-born care providers work more hours than natives: 14.7% more in the United States and 15.2% more in the United Kingdom (Table 2.4). They have higher chances of working full time than native workers: 4.6 percentage points higher in the United States, and 13.4 percentage points higher in the United Kingdom. In the United States, the probability of having more than one year of tenure is 2.3 percentage points higher among foreign-born workers than among natives.

Table 2.4. Foreign-born workers are more likely to work more hours and stay longer in the LTC sector

Results from multivariate analyses, estimations from samples of LTC workers

	United States	United Kingdom
Hours of care provided by week (logged)	0.147***	0.152***
	(0.027)	(0.041)
Probability of working full time	0.046***	0.134***
	(0.011)	(0.038)
Probability of staying at least two consecutive years	0.023**	0.005
	(0.010)	(0.033)

Note: * p<0.10, ** p<0.05, *** p<0.01. Robust standard errors are in parentheses. In the United States, regressions estimate the probability of staying two consecutive years in the LTC workforce, while in the United Kingdom, regressions estimate the probability of staying two consecutive years with the same employer. All regressions for the United Kingdom control for a dichotomous variable describing whether the worker lives in Great Britain or in Northern Ireland. All regressions for the United States control for state-level fixed effects.
Source: Pooled cross-sections of UK-LFS (2012 to 2016) and ASEC-CPS (2012 to 2016).

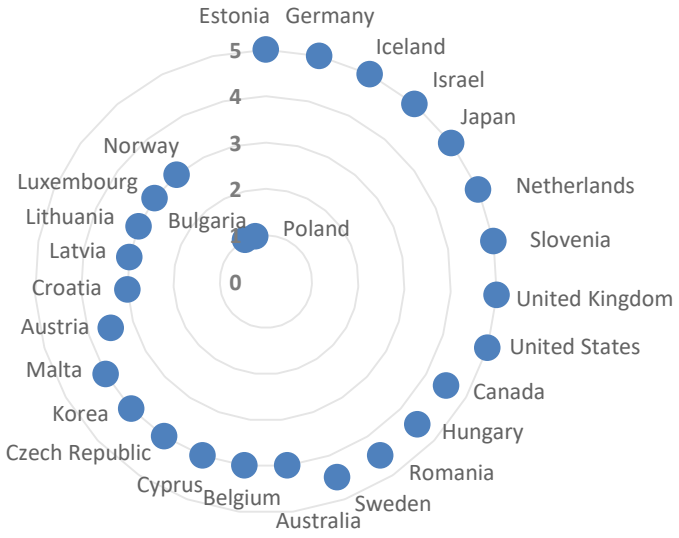
Immigrant workers are more likely to accept difficult working conditions than native workers. Research (Borjas, 2017[39]) has shown lower wage sensitivity among immigrant LTC workers, especially among undocumented immigrants.

2.4. Policies have been implemented to attract more people into LTC careers

2.4.1. Finding workers with adequate skills is challenging

Countries are struggling to find skilled and motivated LTC workers (Figure 2.9). Indeed, the reservoir of suitable workers is small, and the attractiveness of the LTC sector is low.

Figure 2.9. In most surveyed countries, the policy challenge associated with recruitment of new LTC workers is high



Note: Countries answered the following question: "On a scale between 1 (low-level) and 5 (high-level), what is the challenge faced to recruit new LTC workers in your country?".
Source: OECD LTC workforce survey (2018) – see Annex 2.A for a description.

Countries experience two main issues with finding new LTC workers. First, it is difficult to find candidates interested in applying for LTC job openings. In Australia, for instance, 37% of vacancies for personal carers were not filled because nobody applied for them (Australian Government, 2017[40]). Second, employers do not always find suitable profiles among the few applicants. In the reduced pool of candidates applying for a job in LTC, some cannot be recruited because they lack basic skills, qualifications and experience. In the Netherlands, municipalities have noted that they face issues recruiting workers with sufficient competencies. In Australia, these issues are mentioned in 85% of unfilled vacancies for personal care worker jobs (Australian Government, 2017[40]). In France, 41.1% of institutions for disabled elders (EHPADs) and 33.3% of long-stay facilities declared that they faced recruitment issues in 2015. In addition, 63% of institutions reported having LTC job vacancies for more than six months (Muller, 2017[14]) (Bazin and Muller, 2018[41]). In the United States, where the recruitment challenge is high, 10% of openings for nurse practitioners and physician assistants were focused on care for older people and/or people with disabilities (Himmerick et al., 2017[42]).

To find new sources of workers, countries have focused on four main policies. Several countries have targeted recruitment of workers from the traditional pool (students of health or social care or former LTC workers). Some countries have tried to improve the image of the sector, especially to attract more students of nursing or social care. Others have tried to recruit outside the traditional pool by targeting men, unemployed people or those looking for a career change. Finally, increasing the recruitment of foreign-born workers is another strategy (Colombo and Muir, 2015[43]; Fujisawa and Colombo, 2009[44]). However, only half of countries have implemented policies or reforms in any of these directions since 2011[1] (Table 2.5).

Table 2.5. Many countries implemented recruitment measures targeting underrepresented profiles of workers

Measure	Countries implementing the measure
Recruiting from the traditional pool (making sure people return to the sector), with "Get back to work" initiatives	Australia, Estonia, Germany, Japan, Netherlands, Norway, Romania, United Kingdom
Improving image of LTC jobs with Proud to Care and Care Ambassadors initiatives	Australia, Belgium, Netherlands, Portugal, United Kingdom
Providing financial support and perseverance grants for LTC education to train unemployed people or caregivers willing to get licences or certification	Cyprus, Germany, Israel, Japan, Netherlands, Romania, United States
Targeting the recruitment of men into the LTC workforce	Germany, Norway, United Kingdom, Hungary

Source: OECD LTC workforce survey 2018.

2.4.2. Some countries are targeting recruitment from the traditional pool

Since 2011, some countries have been implementing measures to increase students' exposure to LTC practice. Strategies include offering placement opportunities to nurse students and personal care workers during their studies. In Germany, successful LTC employers report that they are able retain nurse students during their time in placements by providing professional mentoring and encouraging their academic progress. Such companies create a strong link with vocational training institutes to attract and retain students. The US Bureau of Health Workforce initiated the Geriatric Workforce Enhancement Program in 2015, providing funding to 44 communities in 29 states to develop new curricula and geriatric care experience and involving collaborations between various professions and partners (Spetz and Dudley, 2019[45]). Similarly, in its Aged Care Workforce Strategy 2018, Australia is exploring the potential for the introduction of a retention strategy to offer LTC placements to nurse students.

In addition to raising students' interest in LTC careers, these measures also have the advantage of providing them with basic experience, which may ease their entry into the job market. Indeed, young graduates can sometimes face issues finding jobs in the LTC sector because employers may require some minimum experience. In the United States, for example, half of the job openings for nurse practitioners and physician assistants for elderly people required at least one year of experience, reducing opportunities for new graduates (Himmerick et al., 2017[42]).

A second set of measures aims to recruit workers from the traditional pool who have left the LTC workforce. Although not specifically focused on LTC, Estonia implemented the Nurse Back to Health Care Programme for nurses working in other fields to return to health care. Germany launched Concerted Action on Nursing in 2018, involving employers and job centres, which seeks to promote retraining into the profession using full-time funding for professional training courses. Low wages and benefits often represent a barrier to recruitment of these workers. For instance, in the United Kingdom, urban LTC agencies often face issues attracting workers who cannot afford housing costs in urban locations, and therefore face significant work-travelling distances (Moriarty, Manthorpe and Harris, 2018[46]). While some employers provide access to short-term accommodation for newly appointed employees, long-term housing solutions are often needed to facilitate the recruitment of new LTC workers. Wage issues are further discussed in Chapter 4.

2.4.3. Work is under way to improve the image of LTC work

LTC jobs suffer from a lack of status and recognition. The poor image of LTC is an important barrier to recruitment, especially for young people who tend to stigmatise LTC professions as low- or unskilled, and men who may traditionally regard LTC jobs as "women's work". Several countries have implemented advertisement campaigns to change the mindset on LTC by presenting a positive side of ageing and promoting the good aspects of LTC careers. Image campaigns can also be used to promote "values-based recruitment": they underline important values needed to work in LTC, such as empathy, and highlight workers' capacity to make a difference on small things. They show a more positive and joyful side of LTC and emphasise its key contribution to the society. In France, the Caisse nationale de solidarité pour l'autonomie (CNSA) launched a TV campaign in 2018, showing the positive aspects of LTC provision in a short cartoon, which involved male characters as care providers. While their true impact on the public is difficult to assess (Colombo et al., 2011[1]), image campaigns are not necessarily expensive. Specifically, social media represents interesting ways of reaching a broader audience at low cost.

Objectives of such campaigns are not only to encourage students to choose LTC as a profession but also to encourage job changers to stay in LTC. Australia is working to introduce a social change campaign to reframe caring and promote the workforce. Similarly, in Belgium (Flanders), two campaigns called Normale Helden and Proud to Care started in 2018 to improve the image of the LTC sector among young workers. In the United Kingdom, additional approaches include the development of outward-facing activities to improve the public understanding of LTC work (such as the Proud to Care initiative) and the improvement of information among those who provide social care career advices (teachers, staff in job centres etc.), with initiatives such as the Care Ambassadors, who visit schools and job centres to talk about their jobs. In the Czech Republic, the Ministry of Labour and Social Affairs regularly patronises events aimed at rewarding workers in social services, such as the Caregiver of the Year Award.

Some countries promote local/regional initiatives. In the Netherlands, regional agencies have implemented various campaigns (including Ambassadors, We have Something for You, Care Xperience and Open Days) to promote a better image of LTC and attract students by providing short lectures and training sessions, focusing on a regional labour market policy. Regional employers' organisations also co-operate with educators and care providers. In Portugal, a few local programmes – with the support of municipalities – have been established to promote a positive image of the LTC workforce.

2.4.4. Initiatives have been created to retrain unemployed people

One of the main avenues used to increase recruitment in LTC has been to target unemployed people and widen the pool of new applicants. These initiatives can require co-ordination of action by several stakeholders: governments providing funding for training, vocational schools organising training, job centres and employers. Agreements between employers, schools and job centres can also facilitate sharing of existing networks, databases and resources to target potential candidates for these programmes. For instance, a council-run Learning to be Job Ready pilot project aimed to attract unemployed people back into work in the north-east of England, targeting those who might be interested by using data on prior course attendance at local colleges and offering a six-month paid placement and four weeks of training (Bennett, 2011[47]).

Since 2011, a few countries have implemented strategies to offer unemployed people job opportunities in LTC. Examples include the Job Winner (Norway) and We have Something for You (Netherlands) campaigns. As LTC is mostly a low-skilled sector, these have been opened to a large pool of applicants, including former LTC staff and unemployed people without a care background. Japan has introduced basic LTC training courses targeting middle-aged and older workers to prepare themselves to return to work after a long break, and provides support for beginners to take LTC training courses. This led to an increase of 320 000 in the number of LTC workers between 2011 and 2015 and contributed to the acceleration of growth in the number of new workers in the LTC market. In Cyprus, since 2014, there has been a co-ordinated attempt to provide better training programmes to attract unemployed people into LTC. This initiative is co-ordinated by two public

entities: the Ministry of Labour, Welfare and Social Insurance (in charge of LTC staff competencies qualification) and the Human Resource Development Authority. In Hungary, similar schemes were launched to provide education, training and employment in LTC to unemployed Roma women.

2.4.5. Policies to attract men into LTC careers could increase worker supply

The objective to widen participation in the LTC workforce could also be reached through action targeting the recruitment of men. Bringing more men into the LTC workforce represents a promising policy option to improve supply: empirical analyses suggest that once recruited into the LTC workforce, they have higher engagement than women (see Box 2.4).

Only a few countries (Norway, the United Kingdom and Germany) reported that they have implemented specific programmes to target the recruitment of men since 2011. The Norwegian Men in Health Recruitment Programme was instigated to recruit (unemployed) men aged 26-55 years to the health and care sector. It entails eight weeks of guided training as health recruits in a regional health institution or health care service. The Programme has been very effective in the Norwegian context to motivate men for a job in LTC. In the United Kingdom, Skills for Care commissioned the Men into Care Programme to attract more men into the LTC workforce. One of the main goals of Germany's Concerted Action on Nursing is to make nursing work more attractive to both women and men.

Box 2.4. Compared to women, men are more likely to work longer hours

Micro-econometric analyses in the United States and the United Kingdom suggest that when they participate in the LTC workforce, men tend to work a greater number of hours than women (Table 2.6). Results were estimated using regressions that included variables on age, age-squared, education categories (low vs. medium, low vs. high), foreign-born status (yes vs. no), number of children (0 vs. 1, 0 vs. 2, 0 vs. 3 and 0 vs. 4+), gender, ethnicity (white vs. other), and year dummies. In the model exploring the correlation between age and hours worked per week, the dependent variable was log-transformed. The two other models were linear probability models.

Men work on average 14.6% more hours than women in the United States and 15.2% more in the United Kingdom. Moreover, men have a higher probability of working full time than women: 18 percentage points higher in the United Kingdom and 8 percentage points higher in the United States. These results suggest that men may represent a promising source of potential LTC workers.

Table 2.6. Men tend to work more than women once in the LTC workforce

Results from multivariate analyses, estimations from samples of LTC workers

	United States	United Kingdom
Hours of care provided per week (men compared to women)	0.146*** (0.038)	0.152*** (0.027)
Probability of working full time (men compared to women)	0.080*** (0.0143)	0.180*** (0.0277)
Probability of staying 2 consecutive years (men compared to women)	0.000 (0.014)	0.008 (0.026)

Note: * p<0.10, ** p<0.05, *** p<0.01. Robust standard errors are in parenthesis. In the United States, regressions estimate the probability of staying two consecutive years in the LTC workforce, while in the United Kingdom, regressions estimate the probability of staying two consecutive years with the same employer. All regressions for the United Kingdom control for a dichotomous variable describing whether the worker lives in Great Britain or in Northern Ireland. All regressions for the United States control for state-level fixed effects.
Source: Pooled cross-sections of UK-LFS (2012 to 2016) and ASEC-CPS (2012 to 2016).

2.4.6. Encouraging the hiring of foreign-born workers

2.4.6.1. Recruiting foreign-born workers via labour migration channels is rare

While LTC has started to appear in debates over migration policy in many OECD countries, introducing or expanding labour migration channels to attract more foreign workers from abroad is not a strategy pursued in most countries. Recruitment from abroad is a potential response to cover the unmet needs of OECD countries' ageing populations, but the presence of foreign workers in this sector is uneven across OECD countries, and most countries do not have specific labour migration channels into LTC. Most recruitment of foreign-born LTC workers draws on the pool of people who have arrived through non-economic migration channels, such as family reunification, student visas, general migration channels for low-skilled workers and international protection (Fujisawa and Colombo, 2009[44]; Cangiano, 2014[48]). For instance, a study among Filipino health care aides in Canada (Winnipeg) showed that they often are recruited locally through informal networks within migrant communities (Novek, 2013[49]). In the United Kingdom, recruitment of foreign-born carers for older adults is mainly explained by the difficulty of hiring native-born workers, and often relies on use of regional/local advertising, informal networks and recruitment agencies (Cangiano and Walsh, 2014[50]).

Registered nurses are generally eligible for labour migration programmes. A number of countries have general programmes for nurses, who might come into LTC or other sectors. For instance, Australia includes registered nurses in its skilled migration programme, which includes a list of occupations for which either the short-term or medium/long-term demand cannot be met by the local market. In Germany, where nurses are eligible for recruitment, a discussion is under way about how to attract more foreign workers, and a dedicated working group is preparing an action plan under the Concerted Action. The Federal Employment Agency has tried to attract workers from other EU countries, in particular southern European countries, which is facilitated as these workers are not subject to labour migration regimes but enjoy free movement. In addition, a programme called Triple Win has been introduced with Serbia, Bosnia, the Philippines and Tunisia, together with Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), for the placement of nurses, leading to 1 000 nurse placements since 2017. Another programme includes training and recruitment of foreign nurses in Vietnam, through which nurses complete their Vietnamese degree and take a full year of German language courses provided by Goethe Institute in Vietnam before coming to Germany. They complete a shorter training course of up to two years on arrival, which includes theoretical and practical aspects and additional language courses. After getting the German degree, they need to work in the care sector for three years to obtain a permanent residence permit. The programme has been successful and the nurse trainees have remained with the participating firms. At the same time, it remains limited in size, with only 150 nurses trained so far since 2013.

Recruitment from abroad of LTC workers who are *not* nurses may not be possible in countries where qualification requirements are in place for labour migrants, or where their salary is below the threshold. Where such recruitment is allowed, it is mostly under general procedures, although a few countries have specific measures. In several European countries (France, Spain, Portugal, Italy and Finland), recruitment from abroad for LTC is exempt from a labour market test if it appears on the list of occupations for which there are labour market shortages. Specific measures for LTC exist in Canada, through caregiver schemes (the cancelled Live-in Care Programme and its replacement pilot programmes), and in Israel through the LTC sector visa. The Canadian programme has been in place in one form or another since 1992 and requires workers to stay in LTC employment for a specific period of time to apply for permanent residence. In 2019, Canada launched the Home Support Worker Pilot, which provides caregivers the ability to change jobs and bring their family members, unlike the previous programme. The Israeli care worker permit is a temporary programme with a maximum stay, is uncapped and has led to a steady increase of foreign LTC workers (up to 70% from 10% of workers in 1990). In 2018, 54 000 temporary foreign workers were legally employed in live-in care in Israel.

2.4.6.2. Dealing with workplace discrimination

Several issues are associated with the recruitment of foreign personal care workers. Some are specific to labour migration channels. When individuals or families are the employer (or sponsor), international recruitment, even when allowed, may be problematic. It can difficult to match supply to demand and choose workers with sufficient skills. There is also the issue of the visa and work permit processing time, which does not always meet the urgency of the demand (home care needs often arise after a fall or an emergency). More generally, some people may be reluctant to receive LTC provided by a foreign-born personal care worker, whether resident or recruited from abroad. In particular, ethnic or religious discrimination might be an issue for older people in some countries.

Given that migrants will probably play a bigger role in the future of the LTC workforce, several actions should be implemented to ensure that beneficiaries accept immigrant care suppliers who are entitled to work in the sector. Potential strategies could consist of implementing training and coaching programmes to improve immigrant personal care workers' communication skills, to educate clients and co-workers in a zero-tolerance policy towards racism and to develop training on the local cultural environment and care delivery.

In some cases, agency mediation can represent a solution. However, it can also bring additional risks. Agencies should be in charge of guaranteeing that workers satisfy training and certification requirements. While they have the capacity to identify new candidates and facilitate their access to training and education, they are often unregulated, which may raise concerns (The Global Ageing Network Leading Age LTSS Center@UMass, 2018[36]). Agency fees can be high, and the recruitment process is not always transparent, especially when agencies do not involve LTC providers in the selection process. Concerns are high for personal care workers and home-based workers.

Another issue relates to the fact that immigrant personal care workers are at higher risk of illegal employment. It is likely that foreign-born workers are over-represented in the grey market. A large proportion are likely to face difficult labour conditions. In countries where LTC subsidies are provided through cash benefits, they may face lower salaries and benefits, lower job stability and very difficult working conditions (such as unpaid extra hours). For instance, this is the case in Italy, where cash purchases of LTC services are common and seem to have fuelled the use of services from low-paid immigrant women (OECD, 2014[51]). Therefore, policies should enhance protection of workers who rely on their sponsor for visas or social benefits, increase awareness about foreign-born workers' legal rights and be proactive in the defence of these rights (for instance, by sending warning letters when encountering an issue).

Improving education and training access for foreign-born workers is central. While not specifically targeting LTC workers, some countries (Japan, Canada) have implemented initiatives to encourage foreign-born workers to get training and certification. The Japanese government introduced economic partnership agreements, through which candidates for certified care workers from three countries can get a visa for a total duration of stay of four years. Their period of stay can be extended for a year under certain conditions and, if they pass the national caregiver examination, it can be renewed without restriction. In Canada, the Prior Learning Assessment and Recognition Process improves immigrants' employability and facilitates their entry into post-secondary education institutions. It allows recognition of the international credentials of immigrants willing to work in health occupations. The programme involves post-secondary education institutions, provincial governments, professional self-regulating bodies and employers.

2.5. Conclusion

This chapter shows that, despite the large increase in LTC service demand, the size, structure and characteristics of the LTC workforce have not changed much since the publication of *Help Wanted? Providing and Paying for Long-Term Care* in 2011 (Colombo et al., 2011[1]). Indeed, the LTC sector is mainly composed of middle-aged women, who mostly work as personal care providers in institutions. Data also reveal the urgency of increasing the size of the LTC workforce in many OECD countries. In 2011, the OECD estimated that the size of the LTC workforce would have to double in order to meet the increase in demand (Colombo et al., 2011[1]). Recent data show that there is still a long way to go to meet this objective. The situation is not uniform across OECD countries, however. International comparisons reveal that Nordic countries (Sweden, Denmark, Norway and Finland) and Japan have successfully enhanced the number of LTC workers over the past ten years. Other countries urgently need to implement reforms to attract new workers into the LTC sector and match growing demand to supply.

Better policies are needed to improve recruitment in the LTC sector. The evidence shows that only a few countries have implemented policies to increase recruitment in LTC. Attracting and training new domestic (currently employed) workers, targeting undersupply by attracting young workers and men to the sector and developing image campaigns are the most prevalent measures. They have a strong potential in terms of effectiveness and magnitude.

This chapter also underlines some forthcoming challenges for organisation of LTC workforce supply. Most countries are implementing a deinstitutionalisation of the LTC workforce by increasing spending on home-based care and reducing spending on institution-based care. While these policies answer elderly people's desire to remain at home as long as possible, their implementation raises new challenges for the LTC market. Specifically, countries need to increase the supply of home-based workers, but must also make sure that nursing homes are prepared to face the associated change in the profile of their residents (who will be more disabled).

References

Allen, S., E. Piette and V. Mor (2014), "The adverse consequences of unmet need among older persons living in the community: dual-eligible versus Medicare-only beneficiaries", *The Journals of Gerontology: Series B*, Vol. Vol. 69/Suppl 1, pp. S51-S58, http://dx.doi.org/10.1093/geronb/gbu124. [30]

Australian Government (2017), *The Labour Market for Personal Care Corkers, in Aged and Disability Care - Australia 2017*, Australian Government Department of Jobs and Small Business, Canberra, https://www.employment.gov.au/newsroom/demand-personal-care-workers-growing. [40]

Bazin, M. and M. Muller (2018), "Le personnel et les difficultés de recrutement dans les Ehpad", *DREES Études et Résultats*, Vol. 1067, https://drees.solidarites-sante.gouv.fr/etudes-et-statistiques/publications/etudes-et-resultats/article/le-personnel-et-les-difficultes-de-recrutement-dans-les-ehpad. [41]

Bennett, A. (2011), "Learning to be job ready: strategies for greater social inclusion in public sector employment", *Journal of Business Ethics*, Vol. 104/3, pp. 347-359, http://dx.doi.org/10.1007/s10551-011-0913-y. [47]

Borjas, G. (2017), "The labor supply of undocumented immigrants", *Labour Economics*, Vol. 46, pp. 1-13, http://dx.doi.org/10.1016/j.labeco.2017.02.004. [39]

Boscart, V. et al. (2018), "The associations between staffing hours and quality of care indicators in long-term care", *BMC Health Services Research*, Vol. 18/1, http://dx.doi.org/10.1186/s12913-018-3552-5. [33]

Bureau of Labor Statistics and U.S. Department of Labor (2015), *Occupational Outlook Handbook: Registered Nurses*, Bureau of Labor Statistics, Washington DC, https://www.bls.gov/ooh/healthcare/registered-nurses.htm. [29]

Cangiano, A. (2014), "Elder care and migrant labor in Europe: a demographic outlook", *Population Development Review*, Vol. 40/1, pp. 1-3-1-1-5-4, https://doi.org/10.1111/j.1728-4457.2014.00653.x. [48]

Cangiano, A. and K. Walsh (2014), "Recruitment processes and immigration regulations: the disjointed pathways to employing migrant carers in ageing societies", *Work, Employment and Society*, Vol. 28/3, pp. 372-389, http://dx.doi.org/10.1177/0950017013491453. [50]

CNSA (2017), *La situation des EHPAD en 2016*, Caisse nationale de solidarité pour l'autonomie, Paris, https://www.cnsa.fr/documentation/cnsa_portrait_ehpad_2017_vf.pdf. [15]

Colombo, F. et al. (2011), *Help Wanted? Providing and Paying for Long-Term Care*, OECD Health Policy Studies, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264097759-en. [1]

Colombo, F. and T. Muir (2015), "Developing a skilled long-term care workforce", in Cristiano Gori, Jose-Luis Fernandez, A. (ed.), *Long-Term Care Reforms in OECD Countries*, Policy Press, London, http://dx.doi.org/DOI:10.1332/policypress/9781447305057.003.0009. [43]

Da Roit, B. and M. van Bochove (2015), "Migrant care work going Dutch? The emergence of a live-in migrant care market and the restructuring", *Social Policy and Administration*. [35]

de Bienassis, K., A. Llena Nozal and N. Klazinga (forthcoming), "The Economics of Patient Safety Part III: Long-Term Care", *OECD Health Working Papers*, OECD Publishing, Paris. [5]

Do, Y. et al. (2015), "Informal care and caregiver's health", *Health Economics (United Kingdom)*, Vol. 24/2, pp. 224-237, http://dx.doi.org/10.1002/hec.3012. [12]

El Khomri, M. (2019), *Plan national en faveur de l'attractivité des métiers du grand-âge 2020-2024*, Ministère des Solidarités et de la Santé, Paris, https://solidarites-sante.gouv.fr/IMG/pdf/rapport_el_khomri_-_plan_metiers_du_grand_age.pdf. [7]

Freedman, V. and B. Spillman (2014), "Disability and care needs among older Americans", *Milbank Quarterly*, Vol. 92/3, pp. 509-41, http://dx.doi.org/10.1111/1468-0009.12076. [31]

Frogner, B. and J. Spetz (2015), *Entry and Exit of Workers in Long-Term Care*, USCF Health Workforce Research Center on Long-Term Care Frogner, San Francisco, CA, https://healthworkforce.ucsf.edu/sites/healthworkforce.ucsf.edu/files/Report-Entry_and_Exit_of_Workers_in_Long-Term_Care.pdf. [22]

Fujisawa, R. and F. Colombo (2009), "The Long-Term Care Workforce: Overview and Strategies to Adapt Supply to a Growing Demand", *OECD Health Working Papers*, No. 44, OECD Publishing, Paris, https://dx.doi.org/10.1787/225350638472. [44]

Geerts, J. (2011), *The Long-Term Care Workforce: Description And Perspectives*, Centre for European Policy Studies, Brussels, http://www.ancien-longtermcare.eu/sites/default/files/ENEPRIRR93_ANCIENWP3_0.pdf. [20]

Genet, N. et al. (2013), "Home Care Across Europe: Case Studies.", *WHO Regional Office for Europe, Copenhagen*, https://www.nivel.nl/sites/default/files/bestanden/Home-care-across-Europe-case-studies.pdf. [3]

Harrington, C. et al. (2012), "Nursing home staffing standards and staffing levels in six countries", *Journal of Nursing Scholarship*, Vol. 44, pp. 88-98, http://dx.doi.org/10.1111/j.1547-5069.2011.01430.x. [28]

Harrington, C. et al. (2012), "Nursing Home Staffing Standards and Staffing Levels in Six Countries", *Journal of Nursing Scholarship*, Vol. 44/1, pp. 88-98, http://dx.doi.org/10.1111/j.1547-5069.2011.01430.x. [6]

Himmerick, K. et al. (2017), *Employer Demand for Physician Assistants and Nurse Practitioners to Care for Older People and People with Disabilities*, UCSF Health Workforce Research Center on Long-Term Care, San Francisco, CA. [42]

Hogan, D. et al. (2014), "High rates of hospital admission among older residents in assisted living facilities: Opportunities for intervention and impact on acute care", *Open Medicine*, Vol. 8/1, pp. e33-45. [32]

Institute of Medicine (2008), *Retooling for an Aging America: Building the Health Care Workforce*, https://doi.org/10.17226/12089. [21]

Kikuzawa, S. (2015), "Elder care, multiple role involvement, and well-being among middle-aged men and women in Japan", *Journal of Cross-Cultural Gerontology*, Vol. 30/4, pp. 423-438, http://dx.doi.org/10.1007/s10823-015-9273-x. [18]

Kubalčíková, K. and J. Havlíková (2016), "Current developments in social care services for older adults in the Czech Republic: trends towards deinstitutionalization and marketization", *Journal of Social Service Research*, Vol. 42/2, pp. 180-198, http://dx.doi.org/10.1080/01488376.2015.1129014. [10]

Libault, D. (2019), *Concertation: Grand âge et autonomie*, Ministère des Solidarités et de la Santé, Paris, https://solidarites-sante.gouv.fr/IMG/pdf/rapport_grand_age_autonomie.pdf. [25]

Lin, S. et al. (2012), "Trends in US older adult disability: exploring age, period, and cohort effects", *American Journal of Public Health*, Vol. 102/11, pp. 2157-2163, http://dx.doi.org/10.2105/AJPH.2011.300602. [16]

Lin, V., X. Zhang and P. Dixon (2015), "Occupational therapy workforce in the United States: forecasting nationwide shortages", *PM&R: the Journal of Injury, Function, and Rehabilitation*, Vol. 7/9, pp. 946-54, http://dx.doi.org/10.1016/j.pmrj.2015.02.012. [27]

Luppi, M. et al. (2014), *Report on the Legal-sociological Analysis of Discrepancies and Dilemmas in Care Workers' Rights*, Centre for Social Policy and Intervention Studies, Utrecht, https://www.uu.nl/en/research/beucitizen-european-citizenship-research/publications. [37]

Lynn, J. (2013), "Reliable and sustainable comprehensive care for frail elderly people.", *JAMA*, Vol. 310/18, pp. 1935-1936, http://dx.doi.org/10.1001/jama.2013.281923. [17]

Maarse, J. and P. Jeurissen (2016), "The policy and politics of the 2015 long-term care reform in the Netherlands", *Health Policy*, Vol. 120/3, pp. 241-245, http://dx.doi.org/10.1016/j.healthpol.2016.01.014. [9]

Mavromaras, K. et al. (2017), *The Aged Care Workforce, 2016*, Department of Health, Canberra, https://agedcare.health.gov.au/sites/g/files/net1426/f/documents/03_2017/nacwcs_final_report_290317.pdf. [24]

Moriarty, J., J. Manthorpe and J. Harris (2018), *Recruitment and Retention in Adult Social Care Services*, Policy Institute at King's College London, London, https://www.kcl.ac.uk/scwru/pubs/2018/reports/recruitment-and-retention-report.pdf. [46]

Muller, M. (2017), *L'accueil des personnes âgées en établissement : entre progression et diversification de l'offre*, DREES, Paris. [14]

Novek, S. (2013), "Filipino health care aides and the nursing home labour market in Winnipeg", *Canadian Journal on Aging*, Vol. 32/4, pp. 405-416, http://dx.doi.org/10.1017/S071498081300038X. [49]

OECD (2017), *Health at a Glance 2017: OECD Indicators*, OECD Publishing, Paris, http://dx.doi.org/10.1787/health_glance-2017-en. [2]

OECD (2017), *International Migration Outlook 2017*, OECD Publishing, Paris, http://dx.doi.org/10.1787/migr_outlook-2017-en. [38]

OECD (2016), *Health Workforce Policies in OECD Countries: Right Jobs, Right Skills, Right Places*, OECD Health Policy Studies, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264239517-en. [4]

OECD (2014), *Jobs for Immigrants (Vol. 4): Labour Market Integration in Italy*, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264214712-en. [51]

Osterman, P. (2017), *Who Will Care for Us? Long-term Care and the Long-term Workforce*, Russell Sage Foundation, New York, http://www.jstor.org/stable/10.7758/9781610448673. [23]

Rapp, T., B. Apouey and C. Senik (2018), "The impact of institution use on the wellbeing of Alzheimer's disease patients and their caregivers", *Social Science and Medicine*, Vol. 207/1-10, http://dx.doi.org/10.1016/j.socscimed.2018.04.014. [19]

Rothgang, H., M. Fünfstück and T. Kalwitzki (2020), "Personalbemessung in der Langzeitpflege", in *Pflege-Report 2019*, Springer Berlin Heidelberg, http://dx.doi.org/10.1007/978-3-662-58935-9_11. [8]

Scheil-Adlung, X. (2015), *Extension of Social Security Long-term care protection for older persons: A review of coverage deficits in 46 countries*, http://www.ilo.org/publns. [34]

Somanathan, A. et al. (2017), *Reducing the Burden of Care in Estonia*, Word Bank Group, Washington DC, http://www.share-estonia.ee/fileadmin/pdffailid/estonia_ltc_report_final.pdf. [13]

Spetz, J. and N. Dudley (2019), "Consensus-Based Recommendations for an Adequate Workforce to Care for People with Serious Illness", *Journal of the American Geriatrics Society*, Vol. 67/S2, pp. S392-S399, http://dx.doi.org/10.1111/jgs.15938. [45]

Stølen, N. and I. Texmon (2010), *Projections of the Norwegian Labour Market for Employees in the Health and Social Sector towards 2030*, Statistics Norway, Oslo. [26]

Sunwoo, D. (2017), *Public Long-Term Care Insurance Program for the Elderly (LTCI)-Performance Evaluation and Policy Implications*, Korea Institute for Health and Social Affairs, Sejong City, http://www.kihasa.re.kr. [11]

The Global Ageing Network Leading Age LTSS Center@UMass (2018), *Filling the Care Gap Integrating Foreign-Born Nurses and Personal Care Assistants into the Field of Long-Term Services and Supports*, The Global Ageing Network, Washington DC, https://leadingage.org/sites/default/files/LA_SodexoReport2018_Digital_r2.pdf. [36]

Annex 2.A. Definitions and data sources

Definitions

This chapter uses OECD's definitions of long-term care (LTC), of the LTC workforce and of LTC settings. The following subsections provide comprehensive descriptions of these definitions, as provided by the OECD Health Statistics 2018.[2]

LTC definition: Health and social care provided for Activities of Daily Living (ADL) and Instrumental Activities of Daily Living (IADL)

LTC is a highly labour-intensive sector, which consists of a range of medical, personal care and assistance services that are provided with the primary goal of alleviating pain and reducing or managing the deterioration in health status for people with a degree of long-term dependency, assisting them with their personal care (through help for ADL, such as eating, washing and dressing) and assisting them to live independently (through help for IADL, such as cooking, shopping and managing finances). As a result, the LTC workforce is its most precious resource.

LTC workforce definition: Nurses and personal care workers

LTC workers are individuals who provide care to LTC recipients at home or in LTC institutions (other than hospitals). Following the OECD definition, formal LTC workers comprise two main professional categories: nurses and personal care workers. The other professional categories are not included in the LTC workforce definition. For instance, the OECD definition does not consider that doctors who work in institutions are LTC workers. LTC workers can come from the health or the social care branch. Their services can be publicly or privately financed.

Nurses include people who have completed their studies/education in nursing and who are licensed to practise (including both professional nurses and associate/practical/vocational nurses); salaried and self-employed nurses delivering services at home or in LTC institutions (other than hospitals); foreign nurses licensed to practise and actively practising in the country; and nurses providing LTC to care recipients affected by dementia and/or Alzheimer's disease.

The following categories of nurses are excluded from the OECD definition (and therefore not covered by the analysis of this chapter): students who have not yet graduated; nursing aides/assistants and care workers who do not have any recognised qualification/certification as licensed nurses; nurses working in administration, research and other posts that exclude direct contact with care recipients; unemployed nurses and retired nurses; nurses working abroad; nurses providing social services; and psychiatric nurses.

Personal care workers include formal workers providing LTC services at home or in institutions (other than hospitals) and who are not qualified or certified as nurses. Personal care workers are defined as people providing routine personal care, such as bathing, dressing or grooming, to elderly, convalescent or disabled people in their own homes or in institutions. They include nursing aides/assistants and care workers providing LTC services, who do not have any recognised qualification/certification in nursing; family members, neighbours or friends employed (i.e. under a formal contractual obligation and/or declared to social security systems as caregiver) by the care recipient or a person/agency representing the care recipient, and/or by public care services and private care service companies, to provide the care services to the person in need.

The following categories of workers are excluded from the OECD definition (and therefore not covered by the analysis of this chapter): informal caregivers, defined as family, friends or neighbours, receiving income support or other cash payments from the care recipient as part of cash programmes and/or consumer-choice programmes, but who are not formally employed, or paid for, by the care recipient (or the person/agency representing the care recipient, including providers/organisations, such as public social care services and private care service companies); unemployed and retired caregivers; caregivers working abroad; caregivers in assessment teams employed to evaluate care needs and other people employed in administrative positions; and social workers/community workers.

LTC settings definition: Home-based and institution-based LTC

Nurses and personal care workers can be either home-based or institution-based. LTC at home is provided to people with functional restrictions who mainly reside in their own homes. It also applies to the use of institutions on a temporary basis to support continued living at home – such as in the case of community care and day care centres and respite care. Home-based LTC also includes specially designed or adapted living arrangements (for instance, sheltered housing) for people who require help on a regular basis while guaranteeing a high degree of autonomy and self-control, and supportive living arrangements. LTC at home is provided to people with functional restrictions who mainly reside in their own homes.

In the OECD definition, LTC institutions refer to nursing and residential care facilities, which provide accommodation and LTC as a package. They refer to specially designed institutions or hospital-like settings where the predominant service component is LTC and the services are provided for people with moderate to severe functional restrictions. LTC institutions include nursing and residential care facilities dedicated to long-term nursing care. LTC facilities comprise establishments primarily engaged in providing residential LTC that combines nursing, supervisory or other types of care, as required by the residents. In these establishments, a significant part of the production process and the care provided is a mix of health and social services, with the health services largely at the level of nursing care, in combination with personal care services. The medical components of care are, however, much less intensive than those provided in hospitals.

According to the OECD definition, institution-based LTC excludes institutions used on a temporary basis to support continued living at home – such as community care, day care centres and respite care. It also excludes LTC services provided in specially designed or adapted living arrangements for people who require help on a regular basis while guaranteeing a high degree of autonomy and self-control (defined as home, and included in the home-based setting). Finally, the definition excludes LTC services provided in hospitals.

Data sources to compare the LTC workforce internationally

Data sources

Given the specificity of the above definition, identifying LTC workers in the LFS is very challenging, which explains why few reports provide international comparisons. Two prior publications offered insights, but faced several data limitations. In *Help Wanted? Providing and Paying for Long-Term Care*, Colombo et. al. (2011[1]) used data collected from a pilot study regrouping several countries, but only focused on five main characteristics: gender, occupation, care setting, country of birth and education. In another report from the ENEPRI European project ANCIEN provided additional information, but only for four countries (Germany, the Netherlands, Spain, and Poland), and were not able to accurately identify LTC workers.

One of the main contributions of this chapter is to provide international comparisons relying on accurate and reliable data. The first source was the OECD Health Statistics Database, which provides data for some relatively basic socio-demographic characteristics of LTC workers. The second main source is labour force

surveys (LFSs), because these provide more information on detailed characteristics of the LTC labour force. LFSs are conducted by national statistics institutions (and harmonised by Eurostat for Europe) every year. They supply data on professions, working conditions, unemployment situations, education and socio-demographic characteristics. Further, an ad hoc module each year focuses on a particular topic. The ad hoc module of the LFS on accidents at work and other work-related health problems, for example, is repeated every seven years. Specifically, this chapter uses two main data sources: the March supplements of the Annual Social and Economic Supplement of the Current Population Survey (ASEC-CPS) for the United States and the European Union Labour Force Survey (EU-LFS), which includes Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Romania, the Slovak Republic, Slovenia, Spain, Sweden and the United Kingdom. Data on earnings came from the Structure of Earnings Survey (SES) for European countries and ASEC-CPS for the United States. As for the EU-LFS, SES are conducted by national statistics institutions and harmonised by Eurostat, but it is run every four years.

For countries not included in these surveys (Australia, Canada, Israel, Japan, Korea and New Zealand), data requests were sent directly to government agencies. Australia's data were based on the Australia Aged Care Workforce 2016 report, published by the Department of Health of the Australian Government. For Canada, the source was the Census survey of 2016. Israel's data were based on their national LFS. For Japan, the source was the survey on Long-term Care Workers Financial Year 2016. Korea's data were from the National Health Insurance Survey (NHIS)'s database for the registry of LTC providers, using the Long Term Care Provider Report for Registration. New Zealand's data were based on the New Zealand Aged Care Workforce, 2016 report, published by the New Zealand Work Research Institute.

These data sources provide comprehensive geographical coverage of high-income countries, as well as a wealth of information on labour and socio-demographic characteristics. In addition, several countries provide micro-level data: the Korean Labour and Income Study, the UK labour force survey (UK-LFS), the ASEC-CPS and the German Socio-economic Panel. However, an accurate and reliable identification of LTC workers in micro-level detail was only possible in the United States, Germany and the United Kingdom surveys. In France, the French survey of long-term care institutions (EHPA: Établissement d'hébergement pour personnes âgées) provided complementary information on the characteristics of the LTC workers.

Methodology to identify LTC workers

This chapter identifies LTC workers by cross-referencing industry codes and occupation codes. While this methodology can be used for international comparisons, caution is needed when interpreting cross-country variations. The tasks undertaken by workers under similar occupation codes may vary from one country to another (this limitation motivated the LTC workforce survey described in Annex 3.A in Chapter 3, which allows more accurate mapping of LTC workers' functions and tasks).

For most European countries, this chapter uses semi-aggregated data obtained from specific extractions sent to Eurostat. The industry code of the EU-LFS is based on the Nomenclature Statistique des Activités Economiques dans la Communauté Européenne (NACE), the industry standard classification system used in the EU. The 2006-07 revision facilitated disentangling of hospital and non-hospital activities. The occupation codes of the EU-LFS are based on the International Standard Classification of Occupations (ISCO), the International Labour Organization classification for organising information on jobs. Note that a revision of ISCO codes in 2011 produced an important methodological break, which prevents any interpretation of time series prior to 2011.

This chapter uses NACE 2-digit and ISCO 4-digit codes, which enables identification of LTC workers with great accuracy. Note that NACE 2-digit and ISCO 3-digit codes were used in some figures when country information on ISCO 4-digits was not available. Annex Table 2.A.1 shows the ISCO codes used to identify nurses (2 221 for professional nurses and 3 221 for associate professional nurses) and personal care

workers (5 322 for home-based personal care workers and 5 321 for personal care assistants). The use of NACE 2-digit codes is helpful to exclude hospital-based workers from the population of interest, while ISCO 4-digit codes enable exclusion of workers who are not in the scope of interest (for instance, midwifes, medical imaging assistants or dental assistants) from the definition. NACE code 88 (social work activities without accommodation) identifies home-based care and NACE code 87 (residential care activities) identifies institution care.

Annex Table 2.A.1. Industry and occupation codes for European countries

European countries			
Industry code (NACE)		Occupation code (ISCO)	
At home	Institutions	Nurses	Personal carers
88 Social work activities without accommodation	87 Residential care activities	2221 / 2230 (before 2011) Professional nurses 3221 / 3231 (before 2011) Associate professional nurses	5322 / 5132 (before 2011) Home-based personal care workers 5321 / 5133 (before 2011) Health care assistants

The size of the sample used to compute the semi-aggregated data was small for some countries or some specific characteristics. When small samples questioned the robustness of results, ISCO 3-digit codes were selected, resulting in the inclusion of midwives practising at home. This may have led to a small overestimation of the LTC workforce.

For European countries, NACE codes Q87 and Q88 are used. NACE Q87 describes residential care activities, which include residential nursing care activities; residential care activities for mental retardation, mental health and substance abuse; residential care activities for elderly and disabled people; and other residential care activities. NACE Q88 describes social work activities without accommodation, which include social work activities without accommodation for elderly and disabled people; other social work activities without accommodation; child day care activities; and other social work activities without accommodation. The interaction of ISCO occupation codes with NACE industry codes 87 (residential care activities) and 88 (social work activities without accommodation) is assumed to have led to selection of the subcategories highlighted in bold in Annex Table 2.A.2.

Annex Table 2.A.2. Result of cross-checking for European countries

2221 (Professional nurses)	*3221 (associate professional nurses)*	5321 (health care assistants)	5322 (home-based personal care workers)
Anaesthetist, nurse	**Nurse, assistant**	**Aide, nursing: clinic**	**Aide, home care**
Consultant, nurse: clinical	**Nurse, associate professional**	Aide, nursing: hospital	**Aide, nursing: home**
Educator, nurse	**Nurse, enrolled**	**Aide, psychiatric**	Assistant, birth: home
Nurse, anaesthetics	**Nurse, practical**	Assistant, birth: clinic or hospital	**Assistant, day care: aged or disabled people**
Nurse, charge	**Sister, nursing: associate professional**	Assistant, midwifery: clinic or hospital	**Assistant, homecare: aged or disabled people**
Nurse, professional: obstetrics		Assistant, patient care	**Assistant, residential care: aged or disabled people**
Nurse, professional: occupational health		Attendant, birth: clinic or hospital	**Assistant, respite care**
Nurse, professional: paediatric		Attendant, hospital	Attendant, birth: home birth
Nurse, professional: psychiatric		Attendant, midwifery: clinic or hospital	Attendant, midwifery: home birth
Nurse, public health		Attendant, nursing: except home	**Attendant, nursing: home**
Nurse, registered		Ayah, hospital	**Carer, home: aged or disabled people**
Nurse, specialist			**Carer, respite**
Practitioner, clinical nurse			**Companion, aged care**
Practitioner, nurse			**Companion, disabled people**
Sister, nursing: professional			**Helper, aged care**
Sister, operating theatre			**Helper, companion**
			Helper, home: caring for aged or infirm people
			Provider, personal care
			Worker, home care
			Worker, home support
			Worker, personal care: home
			Worker, respite care

For the United States, the ASEC-CPS data provide sufficient observations and detail to identify LTC workforce characteristics. The industry code uses the North American Industry Classification System (NAICS), while the occupation code is derived from the Standard Occupational Classification (SOC).

As described in Annex Table 2.A.3, NAICS codes 8170 (home health care services) and 9290 (private households health services) identify workers in home-based settings. NAICS codes 8270 (nursing care facilities), and 8290 (residential care facilities without nursing) identify institution-based care. Moreover, SOC codes 3130 (registered nurses) and 3258 (nurse practitioners) identify nurses, and SOC codes 3600 (nursing, psychiatric and home health aides) and 4610 (personal and home care aides) identify personal care workers.

Note that since a change in the nomenclature in 2010, registered nurses since 2011 have included midwifes, leading to an overestimation of the LTC workforce size. However, the importance the overestimation remains small, since the sample is restricted to nursing care facilities and home health care services. Moreover, the proportion of nurses in the US LTC workforce is small (20%).

Annex Table 2.A.3. Industry code and occupation code for the United States

Industry code (NAICS)		Occupation code (SOC)	
At home	Institutions	Nurses	Personal carers
8170 Home health care services 9290 Private household health services	8270 Nursing care facilities 8290 Residential care facility without nursing	3130 Registered nurses 3255 Registered nurses 3258 Nurse practitioners 3500 Licensed practical and licensed vocational nurses	3600 Nursing, psychiatric and home health aides 4610 Personal and home care aides

LTC workforce questionnaire and pilot study

In many OECD countries, the LTC workforce cannot be as clearly identified as the health workforce can. It rather consists of a mix of professions with different levels of training and skills, and different functions. Countries have a wide variety of professions performing different tasks in both social and health care. Social care ranges from improving elderly people's physical and cognitive state to ensuring better quality of life for vulnerable elderly people and those with chronic illnesses. The roles and skills of professions also vary between countries, even for professions with similar names, making it even more difficult to define LTC workers by job title.

To overcome that methodological issue, this chapter uses data from an LTC workforce questionnaire and a pilot study. Twenty-six OECD countries participated in the questionnaire: Australia, Austria, Belgium, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Germany, Hungary, Iceland, Israel, Japan, Korea, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Romania, Slovenia, Sweden, the United Kingdom and the United States. This survey focused on several themes: the different tasks provided by LTC workers, the professions that carry out LTC tasks, opportunities for tasks delegation between professionals, opportunities for career progression and raising status, the specificity of standards and regulations for LTC workers and the initial training and qualification levels in these professions.

The OECD LTC workforce questionnaire was supplemented by findings from a pilot study involving semi-structured interviews and fact-finding missions to five countries: France, Norway, the Netherlands, Germany and Portugal. Data collected from these interviews with key stakeholders reveal issues that quantitative data cannot always show. These countries were selected based on their ability to provide the relevant information, but also because of their specificity. LTC workforce development in Norway and the Netherlands is among the most advanced across OECD countries. Germany and the Netherlands have an LTC insurance system. France and the Netherlands implemented important dependency reforms in 2015 targeting several aspects of elderly care provision. Portugal is one of the European countries where the size of the LTC workforce is the smallest, but where its growth rate is high. In addition, semi-structured interviews were performed during teleconferences with experts from the United States and Australia. All evidence was collected between January 2018 and December 2018.

Notes

[1] This does not include measures improving pay and working conditions, which can also increase LTC workforce supply through retention.

[2] All definitions, sources and methods per country are available in the database online in OECD.Stat at http://stats.oecd.org//Index.aspx?QueryId=30140.