



**Royal Commission**  
into Aged Care Quality and Safety

# **REVIEW OF INTERNATIONAL SYSTEMS FOR LONG-TERM CARE OF OLDER PEOPLE**

## **RESEARCH PAPER 2**

### **JANUARY 2020**

The Royal Commission into Aged Care Quality and Safety was established by Letters Patent on 8 October 2018. Replacement Letters Patent were issued on 6 December 2018, and amended on 13 September 2019.

The Honourable Tony Pagone QC and Ms Lynelle Briggs AO have been appointed as Royal Commissioners. They are required to provide a final report by 12 November 2020.

The Royal Commission intends to release consultation, research and background papers. This research paper has been prepared by the Rehabilitation, Aged and Extended Care Group, Flinders University and THEMA Consulting for the information of Commissioners and the public. The views expressed in this paper are not necessarily the views of the Commissioners.

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# Review of International Systems for Long-Term Care of Older People

Report prepared for the Royal Commission  
into Aged Care Quality and Safety

November 2019



T H E M A



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This report has been prepared by the Rehabilitation, Aged and Extended Care Group, Flinders University and THEMA Consulting for the information of the Royal Commission into Aged Care Quality and Safety and the public. The views expressed in this paper are not necessarily the views of the Commissioners.

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## Abbreviations

ACAT	Aged Care Assessment Team
ADLs	Activities of Daily Living (e.g. eating, washing, dressing)
ANCIEN	Assessing Needs of Care in European Nations
ASEAN	Association of Southeast Asian Nations
ATSI	Aboriginal and Torres Strait Islander
CHSP	Commonwealth Home Support Program
CMS	Centers for Medicare & Medicaid Services
DHB	District Health Boards
FTE	Full-Time-Equivalent
GDP	Gross domestic product
GHED	Global Health Expenditure Database
HC	Home care
HCP	Home care package
HNC	Home nursing care
IADLs	Instrumental activities of daily living (e.g. shopping, cleaning, cooking, taking medications, managing finances)
IC	Institutional care
ISCO	International Standard Classification of Occupations
LTC	Long-term care
NGO	Non-government organisation
NHIC	National Health Insurance Corporation
NHMRC	National Health and Medical Research Council
NHS	National Health Service
OECD	Organisation for Economic Co-operation and Development
OOP	Out-of-pocket
P4P	Pay-for-performance
RAI	Resident Assessment Instrument
ROK	Republic of Korea
ROSA	Registry of Senior Australians
SHA	System of Health Accounts
VWO	Voluntary welfare organisation
WHO	World Health Organization

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## Executive summary

### Background

The quality of life of older people is significantly affected by the way in which long-term care (LTC) is provided. This presents a challenge to governments to find ways to finance and regulate LTC to provide accessible and high-quality services. This review of international approaches to the provision of LTC has been conducted by Flinders University for the Royal Commission into Aged Care Quality and Safety. The aim of this review is to provide learnings for the aged care system in Australia and to situate the Australian aged care system within the appropriate global context.

### Methods

Countries representing major regions worldwide that were reviewed were: Argentina, Australia, Brazil, Canada, Denmark, Germany, Indonesia, Japan, Republic of Korea, Mexico, the Netherlands, New Zealand, Poland, Russia, Singapore, South Africa, Sweden, Switzerland, Thailand, UK (England), United States of America (USA) and Vietnam. Literature reviews were undertaken to identify information on aged care typologies, financing, organisation, standards, workforce, quality and regulation. Key attributes were compared using data from international databases and reports from organisations such as the Organisation for Economic Co-operation and Development (OECD), World Bank and World Health Organization (WHO); most figures reflect 2016 data. Differences in the definitions and methodologies used in the primary data sources may affect comparability across countries and the primary sources for these data have not been verified; thus these limitations should be considered when interpreting the empirical results.

Expenditure in terms of percentage of gross domestic product (GDP) was determined from OECD data as the health component of LTC expenditure (not limited to aged care) plus old age social expenditure as benefits in kind. This approach best represents Australia's aged care expenditure; however, it does not capture expenditure as cash benefits<sup>i</sup> and thus may underestimate expenditure of some other nations (e.g. Germany).

LTC systems for older people were summarised qualitatively. In addition, a typology derived from Kraus's (2010) typology of LTC systems in Europe was used to compare their financing, regulation and access. This typology considers the following seven characteristics: means-tested access, entitlement to LTC, availability of cash benefits, choice of provider, quality assurance, quality coordination between LTC and other services, and cost sharing [1]. These characteristics were scored to reflect an assumed "consumer friendliness", with a score of 1 reflecting a system that is least preferred by consumers and a score of 3 reflecting a system that is most preferred. The scoring was based on subjective interpretations, which should be

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<sup>i</sup> OECD.Stat data does not allow for separation of social expenditure as cash benefits on old age LTC separately from other allowances such as pensioner concessions.

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considered when interpreting the results. Radar plots were used to summarise the typology scores and countries were grouped according to similar patterns.

The regulation of the quality of LTC in these countries was categorised using a framework proposed by Mor et al. [2]. This framework categorises regulatory approaches as predominantly inspection-based, professionalism-based or data measurement/public reporting systems. The governance of quality regulation was categorised as predominantly centralised or decentralised and whether there are single or multiple organisations responsible for the regulation of quality.

## **Summary of international LTC systems for older people**

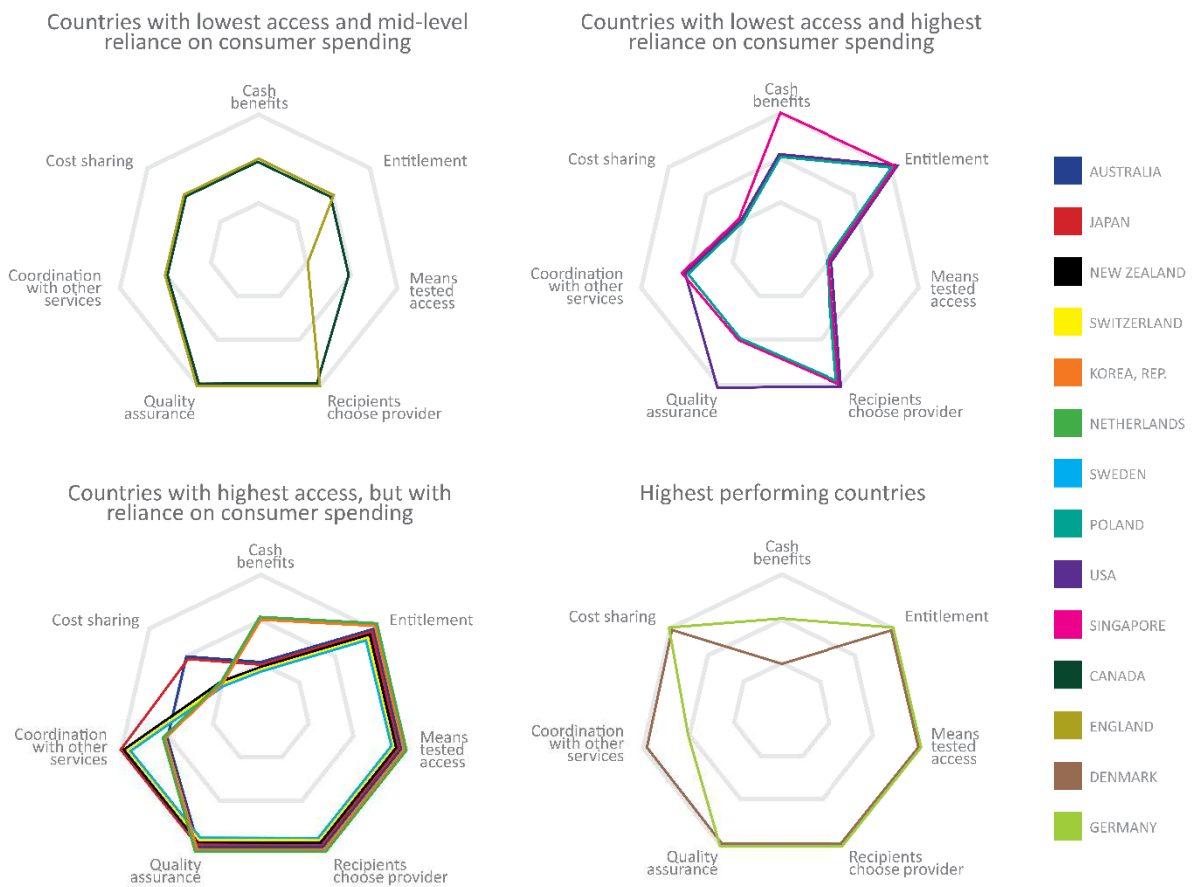
### *Comparison by system types*

Low-to-middle income nations examined from South-East Asia, Central America and Sub-Saharan Africa have a lower proportion of older people and a much lower GDP per capita than Australia. These countries have comparatively undeveloped LTC systems and a heavily reliance on informal care, funded primarily by families out-of-pocket. In some countries, legislation states that families are responsible for providing LTC for older people. Government-funded LTC is often only available for those who are impoverished and without family.

In contrast, in Russia the constitution guarantees social support for all citizens. The most frequently used services are home care services. Adult children have the responsibility for caring for disabled parents and are obliged to cover additional costs. Foster families can be contracted to provide social services to older people living alone needing nursing care.

The remaining nations with developed LTC systems for older people were considered to belong to one of four general groups of financing and organisation according to analysis of the typology scores (Figure 1).

**Figure 1. Categorisation of LTC systems of 14 countries according to financing, regulation and access**



Poland, Singapore and the USA had the lowest levels of access based on means testing and the highest reliance on consumer spending (cost sharing, mostly through out-of-pocket costs by care recipients) in both home and residential care. In these nations care recipients can choose providers and have an entitlement to care. Government expenditure is comparatively low at approximately 0.5% of GDP (Poland 0.4% and USA 0.6%; data not available for Singapore).

England and Canada were considered to have the lowest level of access but only a mid-level reliance on consumer spending; they limit access to publicly funded care with means testing and have limits on entitlement to care based on the available LTC budget. This group of countries spend an estimated 1.4% of their GDP on LTC for older people, although this may not capture expenditure provided as cash benefits.

Half of the countries considered, including Australia, fell into a category which had the highest scores in terms of access, and mid- to high-level reliance on consumer spending. Recipients in this group of countries have entitlement to care where access to services is not constrained by national/regional LTC budgets, is not means tested and consumers can choose the

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provider. Despite the high levels of access to care, these countries still rely on consumer spending through cost sharing for services (i.e. co-payments). On average, this group of countries spend 2.5% of GDP on LTC for older people. Australia's expenditure is estimated at 1.2% of GDP.

Australia scored less well on the quality of integration of care with other services than many other countries in this group. Australia scored only two for quality of coordination of LTC with other services including health, whereas many other nations, including New Zealand, Switzerland, Sweden and Japan, scored three for coordination.

Using this approach, Germany and Denmark scored the highest. Their LTC systems for older people provide consumers with the highest levels of access, lowest cost sharing and a high level of quality regulation and integration with other services including health. On average, these two countries have the highest government expenditure of 2.8% of GDP. This is largely skewed towards Denmark's high spend of 4.3% of GDP; however, Germany's LTC spend of 1.2% is likely to be an underestimate due to their use of cash benefits which is not captured in this analysis.

The main approaches to regulating quality were:

- Inspection-based, which was seen in Australia, Denmark, the Netherlands, Singapore and England. In these countries the responsibility for regulation remained primarily with government.
- Data measurement and public reporting, which was the predominant approach in Canada, New Zealand, Sweden, the USA and the Republic of Korea.
- A professionalism-based approach, which was used in Japan, Germany and Switzerland. In these countries there is a focus on professional organisations, particularly health professions, setting quality standards and self-regulation.

There were no obvious associations between the regulatory approaches and the financing and organisation typologies.

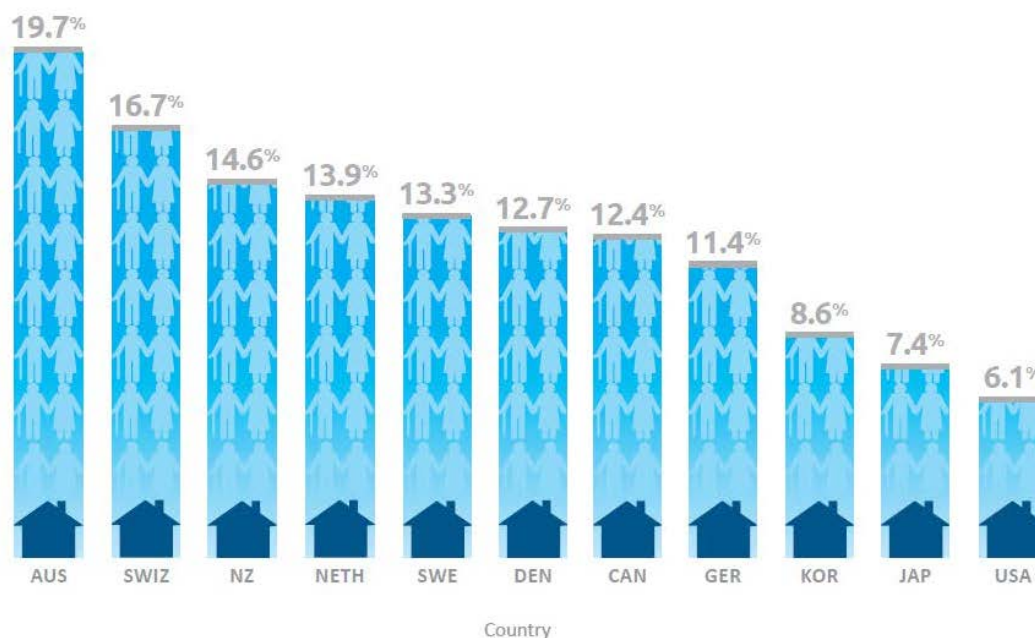
The majority of countries analysed have a decentralised responsibility for quality regulation, with multiple players responsible for regulating quality. Australia predominantly has a single, central level of responsibility for regulating the quality of LTC for older people. This is in particular contrast to countries with professionalism-based quality regulation systems, all of which have multiple levels of responsibility and decentralised regulatory responsibilities.

### *Comparison by quantitative measures*

Amongst nations with developed LTC systems and generally similar demographic profiles (e.g. Germany, Australia, USA, the Netherlands), there is little relationship between government expenditure on LTC and the national age dependency ratio. In general, countries with a high use of LTC also have high expenditure. Japan has a noticeably high expenditure for the size of the LTC population, and Switzerland a noticeably low expenditure for the number of LTC

recipients. Based on OECD data, Australia was found to have the highest proportion of people aged over 80 receiving residential LTC in comparison to 11 other countries (Figure 2). Australia also appears to have a higher number of informal carers than other OECD countries with similar age structures.

**Figure 2. Percentage of population aged 80 and over living in institutions**



Source: Data extracted on 6 May 2019 from OECD.Stat [https://stats.oecd.org/index.aspx?DataSetCode=HEALTH\\_STAT](https://stats.oecd.org/index.aspx?DataSetCode=HEALTH_STAT). Note: It is unclear whether or not care recipients in skilled nursing facilities in the USA are included in these data.

There is some uncertainty about the comparability of national workforce data as agency and other indirectly employed staff may not be captured; nevertheless, some observations can be made. When national levels of nursing staff for LTC in any setting are considered, Switzerland, Germany and the USA appear to have higher levels of relative staffing than Australia. When considering LTC provided in institutions, Australia appears to have overall total staffing levels and nurse workforce at the lower end of the range internationally. Australia may also have lower levels of total staffing and nurses than the USA, Germany and Switzerland in institutional settings. The number of nurses employed in home care settings in Australia may also be low in comparison to many other nations, including the USA. These data suggest further investigation of staffing levels in Australian LTC is warranted.

Attempts at comparing quality of care indicators between nations were hampered by the lack of comparable publicly available measures of antipsychotic use, falls, pressure ulcers and quality of care data. Nevertheless, based on available data, the proportion of Australians aged over 65 with a prescription of antipsychotics appeared in the mid-range when compared to six other countries. A Commonwealth Fund survey of older people from 11 countries indicated that the proportion of respondents aged over 65 experiencing emotional distress

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was highest for Australia and lowest for Sweden. Australian respondents with high needs also reported the highest rates of dissatisfaction with the quality of health care and second highest levels of economic difficulties in accessing health care, behind the USA.

## Discussion

Based on the typology analysis of LTC and qualitative comparisons from the literature review, in the authors' view, **Denmark** and **Sweden** are likely to have high-quality LTC-systems. Both countries have tax-based universal comprehensive coverage for LTC with a high expenditure of more than 4% of GDP on LTC for older people (2% of GDP spent on long-term social care for the aged<sup>ii</sup>). Both countries fund LTC through local authorities with federal grants and local taxes, have high coverage for LTC and have a focus on providing LTC in people's homes. Sweden has a comparatively light regulatory approach but encourages professionalism and the use of clinical quality registers. These registers (e.g. dementia registers) link administrative data, allow benchmarking and facilitate transparency.

Australia's demographic profile and GDP per capita is roughly similar to that of Sweden and Denmark, with a slightly lower proportion of the population aged over 80 and slightly lower GDP per capita. Australia's expenditure on LTC is lower than that of the Scandinavian nations as well as Japan and the Netherlands and roughly similar to that of the UK and Canada. Australia appears to have moderate levels of LTC coverage and to be a high user of institutional LTC for older people in comparison to other nations.

It was difficult to make international comparisons of the quality of integration of LTC systems with the health system. However, there is a suggestion that the coordination between the health and social care systems may not be as well developed in Australia as in similar nations. For example, Australia had the highest proportion of older people with high-level needs who reported dissatisfaction with the quality of health care in the Commonwealth Fund survey mentioned above.

Opportunities for change in the Australian LTC system for older people include:

- Increasing support for home-based care and informal carers, such as through increased availability of high-level home care packages and more generous leave provisions and financial assistance for informal carers.
- Increased involvement of local or regional authorities (decentralisation) in the regulation and monitoring of LTC services.
- Increased professionalism of the workforce, for example mandatory training or registration of LTC workers.
- Increased transparency in staffing levels.

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<sup>ii</sup> OECD data on public social expenditure (i.e. excluding health LTC expenditure) on benefits in kind in old age programs.



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- Mandatory reporting and public availability of quality of care indicators. Use of standardised assessments such as the InterRAI or Australian clinical quality registers, which are independent of the provision of LTC, could be further leveraged to provide publicly reported indicators.
  - Better integration with the healthcare system to improve the management of chronic diseases including dementia. Aged Care Assessment Team (ACAT) assessments provide an opportunity for early intervention to reduce the development of additional health problems.
  - A stronger focus on rehabilitation and maintaining function to delay and avoid disability.
  - Incorporation of principles of human rights into the aged care standards.



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# 1. Introduction

## Purpose

As the proportion of older people in the population grows, many nations will have an increased need for long-term care (LTC) [3-5]. Projections of the likely future prevalence of dementia indicate that countries also need to be prepared to provide supportive services for a large number of people living with dementia [3-5]. It will be an increasing challenge for governments to finance and regulate LTC to provide accessible and high-quality services [4]. Meeting this challenge is important to the quality of life of older people as this is significantly affected by the way in which LTC is provided.

This review examines international approaches to the provision of LTC to provide learnings for the aged care system in Australia.

## Country scope

A list of countries included in the review was developed in consultation with experts and with input from representatives from the Royal Commission into Aged Care Quality and Safety. Countries were selected based on the availability of information, applicability to the Australian aged care system, and to ensure a diverse range of countries were represented. The following list of countries from major regions worldwide was agreed upon: Argentina, Australia, Brazil, Canada, Denmark, Germany, Indonesia, Japan, Republic of Korea, Mexico, the Netherlands, New Zealand, Poland, Russia, Singapore, South Africa, Sweden, Switzerland, Thailand, UK (England), United States of America (USA) and Vietnam.

## Structure of the report

The report is structured as follows.

- Chapter 2 gives an overview of the types of aged care systems found internationally according to the academic literature.
- Chapter 3 summarises the methods used in this review to investigate the selected countries: the approach to literature searching, data sources and their limitations, and the typology used.
- Chapter 4 describes the key features of the LTC systems for older people in the selected countries, including funding, providers, access, standards for LTC workers, quality regulation and quality assurance. These features are also summarised in tabular form in Appendix 2.
- Chapter 5 examines the national LTC systems using publicly available data including demographics, recipients of LTC, LTC expenditure, the LTC workforce and quality of care indicators.

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- Chapter 6 presents the results of applying the typologies to the selected countries. This distils key features, making their similarities and differences more apparent.
  - Chapter 7 summarises key alternative approaches to the financing and organisation of aged care systems internationally.

Finally, the report discusses key issues raised within the review in Chapter 8 and presents opportunities for change in the Australian aged care system in Chapter 9.

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## 2. Overview of LTC systems for older people

### Typologies of LTC provision

A review of the literature identified several approaches to organising aged care systems into similar groupings or typologies. These include typologies for the financing of aged care, the regulation of quality of aged care, and for grouping of providers of aged care in both residential and home care settings.

#### *National LTC systems*

Based on the Assessing Needs of Care in European Nations (ANCIEN) study in 2010 by Kraus et al., the European Network of Economic Policy Research Institutes developed a typology predominantly characterising the funding of aged care, but also capturing the provision/organisation of care [1]. The ANCIEN study collected data on national LTC systems through partner institutes from European Union nations. The approach includes a quantitative scoring system to assign a “patient friendliness” score, i.e. a consumer-preferred rating of the country’s LTC system. This typology assigns scores for the level of means-tested access, entitlement, availability of cash benefits, choice of providers, quality assurance, integration of care, cost sharing and public expenditure as a share of GDP.

The scoring system allowed Kraus et al. to conduct a formal cluster analysis, which demonstrated that participating countries’ LTC systems fell into four clusters: (a) informal care with low private financing, (b) generous financing, high access and formal, (c) informal care and high private financing, and (d) high private financing and formal care [1]. They concluded that Western European nations tended to have a greater degree of “patient friendliness”, i.e. more characteristics that would be preferred by care recipients and in general a higher GDP spend on LTC.

The cluster analysis was based on organisational depth which reflects components of the aged care system such as care accessibility and freedom of choice for consumers. Interestingly, both Western and some Eastern European nations had high organisational depth, despite a wide variation in LTC expenditure. The cluster of countries with “profound organisational depth and a high level of financial generosity” was also found to have the highest consumer-friendliness score (e.g. Sweden, Denmark, the Netherlands). The authors indicated that countries with moderate organisational depth and moderate financial generosity (e.g. England, Finland) would most likely be preferred by care recipients over those with profound organisational depth but low financial generosity (e.g. Bulgaria, Czech Republic) as a lack of public funding can lead to less choice for older people with low incomes. A cluster analysis incorporating Australia into this approach identified Australia as belonging to the cluster with moderate financial generosity and organisational depth [6].

A second analysis in the same study, based on LTC use and financing, found Australia to sit in a cluster of “diverse” nations, with low spending, high informal care use and support, and low

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private expenditure [6]. This cluster also included England. Other clusters included a Scandinavian-focused cluster of nations with a highly developed and generous LTC system with low private expenditure (including Sweden, the Netherlands and Denmark) [1]. The remaining clusters had no clear geographical pattern and included a cluster with medium financing and high informal care and support with low private expenditure (including Germany and the Czech Republic) and a final cluster with low public expenditure, high informal care and high private financing (including Italy).

A more recent typology of financing of LTC has been proposed in a report from the World Bank [7]. Four types of national financing systems are described: social insurance models (generally financed by compulsory contributions, i.e. payroll tax, including the Netherlands, Germany, Japan and the Republic of Korea), the universal model (tax-based universal public LTC coverage including the Scandinavian countries of Denmark, Finland and Sweden), means-tested systems (where tax-based coverage is dependent on eligibility thresholds, including the UK and USA), and hybrid systems and approaches (a mix of the features of other approaches, including France).

An earlier report in 2011 by the Organisation for Economic Co-operation and Development (OECD) described three broad country clusters based on the scope of entitlement to LTC and the system for providing LTC coverage: (a) countries with universal coverage within a single program (i.e. via social LTC insurance, through the health system or tax-based) in nations including Sweden, Denmark, Finland, Japan, Korea, Germany, the Netherlands and Australia, (b) mixed systems (Czech Republic, France, New Zealand and the UK) or (c) means-tested safety-net schemes (the USA) [8]. The authors suggested that universal coverage systems generally provide good access to LTC for both home and institutional care but cost a larger portion of GDP and that family carers often provide less intensive care in these countries.

In 2010, de Raoit and le Bihan proposed a typology based on the role of cash-for-care (providing allowances instead of services) in a country's LTC system as well as the view of informal care, based on six European countries [9]. They suggested that there are three models: a social service model (e.g. Sweden and the Netherlands), a highly regulated cash-for-care scheme (e.g. France) and a little-regulated cash-for-care system (e.g. Germany).

A recent cluster analysis by Halaskova and colleagues in the Czech Republic on 13 OECD countries concluded that Australia, along with Korea, spends a low proportion of GDP on LTC but is a high user of institutional LTC, with a high proportion of LTC funds spent on institutional care [10]. However, this analysis was based on OECD data which only captured the health component of LTC expenditure and thus did not fully capture Australia's LTC expenditure. A second cluster (including the Czech Republic and Hungary) was characterised by a low LTC expenditure as a proportion of GDP, high expenditure on institutional LTC but low coverage. The cluster comprising mainly Nordic countries (including Denmark and Finland) had the highest number of LTC recipients, high LTC expenditure and the lowest proportion of LTC expenditure allocated to institutional care [10].

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### *LTC providers*

Typologies also exist which categorise aged care or LTC providers. A 2018 typology for the quality orientation of residential aged care providers characterised them as either organisation-focused, consumer-directed or relationship-centred [11]. **Organisation-focused providers** are described as those that have an internal quality focus, consider care as a process and have a task-oriented approach. The resident is dependent on the care worker, there is a focus on safety and buildings are “hospital-like”. **Consumer-directed providers** have a focus on consumer preferences and choice, and perceive care as a service with an individual, consumer-centred approach. There is a focus on consumer-rights and choice, and buildings are generally hotel-like. In contrast, **relationship-centred providers** are described as having a focus on the quality of life of residents, families and staff, considering care as a relationship and delivering person-centred, relational care. There is a focus on “personhood” and the relationship between the resident and the care worker, and the accommodation is “home-like” [11].

In a recent study, a typology for home care providers was developed based on a literature review of home care policies and surveys of 36 home care providers [12]. A cluster analysis identified home care models based on different levels of patient-centred care delivery, the availability of specialised care professionals and the approach to monitoring of care performance. Policy-level factors did not distinguish between the home care models and thus the providers were not clustered by countries. The authors plan to conduct a further analysis considering the outcomes associated with these models, using information on the health outcomes of home care recipients using interRAI data.

### *Quality regulation*

A recognised classification of quality assessment in health care is the Donabedian model [13]. In this model, approaches to assessment of quality in health care are described as structure based, process based or outcomes based. Structure-based assessment is based on resources and organisational structure, for example the facility, equipment and staffing. Process-based assessment focuses on how care is delivered and received, i.e. the staff or patient processes. Outcomes-based assessment focuses on the effects of the service on the patient’s health, for example a focus on the patient’s functioning. This approach has also been used in describing the regulation of quality within aged care [14, 15].

Government mechanisms to increase quality are also described as “hard” (e.g. inspection and regulations) or “soft” (i.e. relying on market forces and consumer choice and pressure) [11]. Malley and colleagues in a report from the London School of Economics and Political Science categorised regulatory interventions to promote quality in LTC services as being in the form of either (a) directions (e.g. standards, targets, codes of conduct or charters), (b) surveillance (e.g. inspection, audit or review), or (c) rules and powers for enforcement [16]. These approaches may be either implemented in a “top-down” or “bottom-up” fashion or can be implemented through self-regulation [16]. Australia undertakes an approach of “top-down”

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inspection-based surveillance, focused until recently on directions regarding process-focused standards with powers to impose sanctions for enforcement. This contrasts with Finland and Japan where inspections are used mostly to investigate complaints; while data on compliance with regulations are collected from auditing or performance reviews [16].

Economic instruments for the promotion of quality in LTC have been categorised as (a) subsidies (e.g. workforce development funds in England), (b) price regulation or payment schemes (e.g. pay-for-performance schemes such as additional reimbursement in Japan for providers exceeding minimum staffing standards in residential care), or (c) public procurement (e.g. tenders for state-funded aged care packages in Australia) [16]. Information-related instruments were categorised as either (a) education and knowledge management, (b) quality management systems and improvement tools, (c) public reporting, or (d) complaints channels [16].

National approaches to the regulation of LTC quality have also been described as professionalism-based, inspection-based, data measurement/public reporting systems or developing [17]. Countries with professionalism-based quality regulation, such as Switzerland and Germany, generally have standards negotiated between multiple parties involved in LTC. There is an emphasis on the role of professional organisations, particularly health professions, in setting quality standards and self-regulation [2]. The professional or provider organisations have most of the responsibility for upholding standards and the governments less responsibility. Countries with inspection-based quality regulation, such as England and Australia, rely on inspections and audits for compliance against standards as the main basis for regulating quality, with the main responsibility residing with government. Data measurement or public reporting as a driver of market forces to maintain quality is seen as the key factor for regulating quality of LTC in other countries such as the USA and Canada. In these countries the main responsibility for regulating quality remains with government.

## Quality assurance

In Australia, the vast majority of residential aged care providers meet accreditation standards, with 97% granted an accreditation period of three years or more in 2017–2018 [18]. Implementation of sanctions has been rare [11]. Nevertheless, concerns about quality of care led to a Royal Commission into Aged Care Quality and Safety being established [19]. Regulation for quality assurance in LTC is also a challenge internationally [20]. Despite increased publicly available reports, the lack of indicators that report on outcomes rather than structure and process has left consumers with limited information on quality to enable them to discriminate between providers and to inform choice [21].

Increases in regulation often occur in response to scandals or concerns about the quality of aged care; however it has been suggested that the regulation may monitor what is simple to monitor at the expense of quality of care and care relationships [22, 23]. There may be an increasing emphasis on standards and paper work rather than care [24]. Others have



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suggested that regulations raise quality to a basic level but not beyond [11]. Some freedom in decision making for care workers may be important in providing quality care and many newer models of care include alternative staffing approaches in an attempt to deliver more person-centred care [25]. Different providers may respond differently to regulation, dependent on their organisational culture and processes [26]. However, increasing regulation may be at the expense of innovation [23, 27-31].

Quality of LTC is often thought of in three categories: effectiveness and care safety, patient centredness/responsiveness and care coordination [32]. Approaches to quality assurance also focus on three areas:

- a) standards for provider participation
- b) monitoring and enforcing compliance
- c) market-based approaches to improving quality (predominantly public reporting but also pay-for-performance).

Different countries emphasise different approaches [2]. Australia, the USA and many OECD countries focus on setting standards for structural input and care processes. Other countries such as Japan have emphasised professionalism in the sector and have set educational and workforce standards as a key quality assurance mechanism. Many countries have created external assessment bodies to oversee quality of care and monitor compliance with minimum standards in residential settings. This contrasts with the delivery of community/home care which is generally less regulated.

While there is a move away from process measures (such as counting staff numbers) internationally towards focusing on the recipients' quality of life and the person centredness of the care approach, operationalising these concepts has been challenging [11]. Some countries such as Sweden have registers that include LTC users and run surveys covering specific topics; for example the Health Quality Council of Alberta has run surveys on elder abuse. Self-assessment reports are used in Australia and Japan. Providers can also self-evaluate using guidelines. In England, consumers are included in the survey process, providing a system of peer review. Canada, the Netherlands, Germany, the UK and the USA have policies encouraging monitoring of LTC user satisfaction and experience, but they are not consistently published. A small number of OECD countries (Germany, Korea, Sweden and the USA) publish reports on LTC which grade performance.

An increasing number of countries are adopting or trialling the use of interRAI instruments in the assessment of quality in aged care (<https://www.interrai.org/>). InterRAI includes assessments for home care and institutional care developed by researchers from more than 40 countries [33, 34]. These assessments include clinical observations and quality indicators to allow multiple, comparable assessments and adjustment for case mix. Some of these are reported publicly, e.g. in Canada and the USA.

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Within Australia some advances are being made in the collection of data on outcome measures. Current research is underway on collection of indicators from Australian residential care providers to enable direct comparisons of Australian data from care facilities with others internationally (the NHMRC-funded CareTrack Aged study). Prospective data on recipients of LTC are being collected in a state-based registry on an opt-out basis in South Australia through the ROSA (Registry of Senior Australians) [35]. Nationally, a register on quality of diagnosis and care for people living with dementia, the Australian Dementia Network Registry (ADNeT), is being established [36]. Some clinical and research groups are using the interRAI assessment, which integrates standardised assessment tools and allows quality assessments and international benchmarking.

### LTC workforce

Internationally, there is debate regarding the value of mandated care recipient-to-staff ratios and of mandates on staff qualifications within these ratios. While it could be argued that staffing levels are a key factor in quality, reviews have found conflicting results, indicating both that higher total staffing levels are associated with improved quality of care [37] and that there is no clear relationship [38]. A systematic review has suggested increasing staff-to-resident ratios or additional staff training may offer potential cost savings over time from a societal perspective by reducing healthcare costs [39]. Some nations have mandated recipient-to-staff ratios within institutional care (including the USA, Japan, Canada, Germany, Vietnam and the Republic of Korea) but there is large variation in legislated staffing requirements for residential aged care [40].

While there is an assumption that more staff with higher education backgrounds will ensure better quality of care and quality of life for the residents, there is currently a lack of consistent evidence to confirm or refute this [41]. In Australia, it has been suggested that a skills mix in residential care of 50% nurses (30% registered nurses and 20% enrolled nurses) and 50% personal care assistants is the minimum requirement for safe residential aged care [42]. A 2012 review concluded that nurse staffing standards improve staffing levels [40]. However, some alternative models of residential aged care operate with staff in less traditional care roles who have had high levels of training provided by the care home operator [43-45]. It has been suggested that “mandating a set staffing level may stifle innovation, and even lead to some ‘high performing’ aged care facilities to reduce their staffing levels” [46]. An analysis from the USA indicated that the introduction of mandated minimum nursing staffing levels in some states increased staffing in the low-staffed nursing homes, partly by the use of lower-paid nurses, but also that nursing homes that had higher staffing levels before the introduction of regulation decreased their staffing [47].

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## 3. Methods

### Literature review

Literature reviews were undertaken to identify information on aged care typologies and national approaches to LTC for older persons, using EconLit, MEDLINE and Latin American and Caribbean Health Sciences (LILACS) databases. Search terms and phrases included long-term care, social care, nursing home, residential care, home nursing, day care, informal care, aged, elderly, geriatrics, quality, regulation, funding and typology. This approach was supplemented with information obtained by extensive grey literature searching including national health and social care websites, key international reports including those produced by the OECD, the European Commission's European Social Policy Network and the World Health Organization (WHO), contact with experts, pearling of reference lists of identified relevant reports and articles, and handsearching using literature databases PubMed, MEDLINE and Google Scholar.

### Data sources and limitations

The comparison of key attributes reported here uses international databases and reports from such organisations as the OECD, World Bank and WHO. These data include demographics, macro measures and expenditure, funding and structure of aged care systems internationally, primarily sourced from the World Bank database, OECD health statistics database and WHO global health database. Information is also used from the literature searches as referenced. Most figures reflect 2016 data; however, in the event of missing data, the most recent available values were used. Some post-hoc calculations were performed to convert absolute figures into a per capita rate.

The primary sources for these data have not been verified and, as such, it is possible that there are variations between countries in terms of how information has been defined, collected and analysed. The OECD.Stat database provided country-level data on demographics, recipients of LTC, workforce data and LTC expenditure. Differences in the definitions and methodologies used in the primary data sources may affect comparability across countries. Limitations of the data collection and reporting by individual countries to these agencies should be considered when interpreting the empirical results. Nonetheless, these databases provide the most reliable basis for cross-country comparisons that we are aware of.

For some variables (e.g. the extent of informal care), the data presented in this report are derived from different sources [1, 6, 48]. Where possible, we have attempted to account for and/or describe any differences in definitions and methodology. Nonetheless, there may be some discrepancies in reporting that affect the comparability of data from different countries and sources.

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Key sources, definitions from the data sources and methods for synthesis for the various comparisons are outlined below.

### *Definition of long-term care*

Long-term care (health and social) is defined by the OECD as consisting 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 activities of daily living (ADLs), such as eating, washing and dressing) and assisting them to live independently (through help for instrumental activities of daily living, IADL, such as cooking, shopping and managing finances).”

### *Care settings*

LTC at home is defined within the OECD.Stat database as care “provided to people with functional restrictions who mainly reside at their own home. It also applies to the use of institutions on a temporary basis to support continued living at home – such as community care and day care centres and in the case of respite care. Home care also includes specially designed or adapted living arrangements (for instance, sheltered housing) for persons who require help on a regular basis that guarantee a high degree of autonomy and self-control, and supportive living arrangements.”

LTC in institutions refers to nursing and residential care facilities which provide accommodation and LTC as a package. This refers to specially designed institutions or hospital-like settings (e.g. nursing homes) where the predominant service component is LTC and the services are provided for people with moderate to severe functional restrictions.

### *Care recipients*

The services received by LTC recipients can be publicly or privately financed. LTC recipients exclude disabled people of working age receiving benefits without LTC services. The data for Australia, Japan and New Zealand are for care for older people.

LTC recipients in institutions include people receiving formal (paid) LTC in institutions, as defined above, other than hospitals. The Australian data are for government-funded aged care facilities. For the USA the data are for nursing home residents of all ages. The data for Japan are for Welfare Facilities for the Elderly Requiring Long-Term Care (*Kaigo Roujin Fukushi Shisetsu*), Healthcare Facilities for the Elderly Requiring Long-Term Care (*Kaigo Roujin Hoken Shisetsu*) and Sanatorium-Type Medical Care Facilities for the Elderly Requiring Long-Term Care (*Kaigo Ryouyougata Iryou Shisetsu*). For Switzerland LTC in hospitals exists to a small extent and is not captured in the data. USA nursing homes include those certified by Medicare or Medicaid, or both, or licensed by individual states, including nursing care units of hospitals. Data from the Netherlands and Japan appear to include people of all ages. Other nations are less clear.

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LTC recipients at home include people who receive LTC from paid LTC providers, including non-professionals receiving cash payments under a social program and recipients of cash benefits or similar programs provided to support LTC recipients based on a needs assessment. It excludes people who only need assistance with instrumental activities of daily living (IADLs), such as shopping and cleaning. An OECD.Stat note on Australian data on LTC recipients at home (from 2016) indicates that they include older people (65 years and over) in the Commonwealth Home Support Program (CHSP), Western Australian Home and Community Care recipients and Home Care Package (HCP) recipients. This excludes CHSP recipients who do not receive personal or nursing care, in line with the OECD definitions. The data from Germany do not include IADL recipients. The data from Canada on home care recipients may include formal and informal care. The data on Japan may include multiple counts of the same care recipients. The data from Denmark do not include those with temporary help care. The data from Switzerland include people receiving ADL and/or IADL services. The data from the USA match the OECD data definition.

### *Workforce*

LTC workers are defined within the OECD.Stat database as individuals who provide care to LTC recipients. Formal LTC workers include the following occupations and categories:

- 1) “Nurses, as defined by the International Standard Classification of Occupations (ISCO)-08 classification (2221 ISCO code for professional nurses and 3221 ISCO code for associate professional nurses), providing LTC at home or in LTC institutions (other than hospitals).
- 2) Personal care workers (caregivers), including formal workers providing LTC services at home or in institutions (other than hospitals) and who are not qualified or certified as nurses. As per the draft definition in the ISCO-08 classification, personal care workers are people providing routine personal care, such as bathing, dressing or grooming, to elderly, convalescent or disabled persons in their own homes or in institutions.”

Data on the LTC workforce are identified in OECD.Stat as being for care for older people for Australia and New Zealand; for Switzerland LTC for disabled people is excluded. Whether LTC workforce data are specific to older people is not clearly reported for other nations.

Figure 13 to Figure 16 and Appendix 3 Figure 29 to Figure 30 plot the staffing of LTC against the number of recipients of LTC. The different figures represent different staffing mixes (all workers, nurses) and different LTC settings (total, institutional and home). The axes in each figure are standardised to 100 of the general population. That is, the y-axes represent the number of “workers” (however defined: formal LTC workers, nurses, headcount or FTE) per 100 of the population of a given country. The x-axes represent the number of “recipients” (however defined: home, institutional or either) per 100 of the population of a given country.

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## *Expenditure*

Estimates of government (or compulsory schemes) expenditure on LTC for older people were derived from OECD.Stat and expressed as a percentage of GDP in this report to assist with comparability across countries. However, comparisons of LTC expenditure between countries are difficult [49].

Government expenditure estimates in this report are the sum of the health component of LTC expenditure and old age social expenditure as benefits in kind. This approach gives the best representation of Australia's aged care expenditure that is possible from the data but has some key limitations which include the following. 'Benefits in kind' do not capture cash benefits such as the carer allowance in Australia, or carer allowance or social assistance in Germany – these are not identified separately in the OECD.Stat data even though cash benefits comprise a component of LTC for the aged in many countries (see Table 4 to Table 6, Appendix 2). The distinction between health and social spending is not consistent across countries. The definition of LTC is broader than aged care, and can include services for the disabled. Some countries (including the USA) only report expenditure for institutional care [50].

OECD data on LTC expenditure are from the Global Health Expenditure Database (GHED), which provides internationally comparable data on health spending for close to 190 countries from 2000 to 2016. In collaboration with member states, WHO updates the database annually using available data such as government budgets and health accounts studies.

The System of Health Accounts (SHA) 2011 provides a framework for the systematic description of the financial information related to health care used in the GHED [51]. Long-term care is separated into long-term care (health) and long-term care (social). LTC (health) includes personal "body help" type services (e.g. help with ADL) as part of health expenditure, while "assistance or home help" type services (e.g. help with IADL) is counted under LTC (social), outside the core health boundary.

The SHA 2011 uses the following definition of long-term care (health): "a range of medical and personal care services that are consumed with the primary goal of alleviating pain and suffering and reducing or managing the deterioration in health status in patients with a degree of long-term dependency"[51].

Current expenditure on health care is defined in the SHA 2011 as: "final consumption expenditure of resident units on health care goods and services. Current expenditure on health quantifies the economic resources spent on the health care functions as identified by the consumption boundaries"[51]. The health component of LTC (HC.3) covers medical or nursing care and personal care services (ADL). Assistance case services (IADL) and other social care services are excluded.

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### *Quality of care indicators*

Data on the use of antipsychotics, pressure ulcers, falls and quality of life for older people in aged care were obtained from a variety of published and publicly available data sources including the SHELTER study [52-54], surveys and national data registries [55, 56].

Data on the prescription of antipsychotics per 1000 population aged over 65 were sourced from OECD, *Health at a Glance 2017* [50]. OECD information on this indicator states:

Antipsychotics are defined consistently across countries using Anatomical Therapeutic Classification (ATC) codes ... Most countries are unable to identify which prescriptions relate to people with dementia, so the antipsychotics indicator covers all people aged over 65. Some caution is needed when making inferences about the dementia population, since it is not certain that a higher rate of prescribing among all over-65s translates into more prescriptions for people with dementia. Nonetheless, measuring this indicator, exploring reasons for variation and reducing inappropriate use can help to improve the quality of dementia care. [50]

Data refer to 2015 or nearest year.

Whilst many countries collect quality of care indicator data, the reporting and public availability of these data are highly variable, limiting comparisons that can be made (see Appendix 4). We have conducted some analyses on available and comparable quality of care indicators; however, any correlations between these indicators and other characteristics of aged care systems should be interpreted with caution as differences may be due to variations in case mix (i.e. population characteristics). For example, the incidence of pressure ulcers may reflect the level of disability within an LTC population rather than the quality of care provided by an institution. Nonetheless, these factors may be indicative of quality of care and are therefore considered the best available indicators at present.

### **LTC system typology**

A typology is used to compare the aged care systems of the selected countries. This typology is presented in Table 1.

The following seven characteristics of the financing and organisation of LTC are derived from the Kraus et al. typology of LTC systems in Europe [1]:

- means-tested access, i.e. whether the level of access to publicly funded LTC services is means tested
- entitlement to LTC, i.e. whether all people assessed as eligible have an entitlement to services, or whether services may not be provided despite eligibility, for example due to budget constraints
- availability of cash benefits, i.e. whether cash benefits are provided to care recipients or carers to purchase services

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- choice of provider, i.e. whether the care recipient can choose between alternative providers
  - quality assurance, i.e. whether there is mandatory quality assurance in both home care and institutional care
  - quality of coordination between LTC for older people and other services
  - cost sharing, i.e. whether care recipients provide substantial financial contributions for institutional and/or home care services, in addition to informal care.

Kraus et al. scored these items to reflect consumer friendliness, with a score of 1 for a system that is assumed to be least preferred by consumers and a score of 3 for a system that is most preferred by consumers [1]. The scores were based on the following assumptions of what is preferable to care recipients:

- no means testing and entitlement is preferred, i.e. a higher level of access is preferred
- cash benefits are preferable to no cash benefits
- free choice of providers is preferred
- quality assurance in both institutional and home care is preferred
- a higher level of coordination between LTC services and other services is preferred
- less cost sharing is preferred.

Previous analyses have used this numbering system to categorise the following countries: Australia, Denmark, England, Germany, Poland and Sweden [1, 6].

In this review, the typology is extended to include regulation of quality using categories based on the work of Mor et al. [2] and informed by key factors proposed to be important in the regulation of quality [11] as described below. Whilst many countries may incorporate components of more than one approach, this categorisation is intended to indicate the general emphasis of that country's quality assurance system. In some cases, the absence of information indicating public reporting is assumed to indicate that this is not performed; thus these categories should be interpreted with caution. The indicators used for regulation of quality are:

- centralised versus decentralised regulation
- single versus multiple levels of responsibility for quality regulation
- "regulatory approach", derived from a 2014 international comparison of LTC quality [17]; the categories applied to each respective country are as reported as in the original publication [2], updated where possible
- public reporting of assessments
- public consumer ratings.

Additional descriptive variables have also been included to capture information about quality assurance, training requirements, sources of funding, out-of-pocket costs and the types of providers, as reported in Chapter 3 and Appendix 2.



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Mainstream database searches plus an extensive search of the grey literature and examination of reference lists of identified relevant reports and articles were conducted to provide information on each characteristic of the typology. The scores provided in the original typology analyses were reviewed to ensure any changes in the LTC system that occurred following these analyses were reflected in the typology [1, 6]. Where changes had been made to the LTC system, scores were updated to reflect this.

The possibility that some funding, quality and regulation policies for some countries is outdated remains. Also, for some variables (e.g. the extent of informal care) the data presented in this report are derived from different sources [1, 6]. Where possible, we have attempted to account for and/or describe any differences in definitions and methodology. Nonetheless, there may be some discrepancies in reporting that affect the comparability of data from different countries and sources.

The “regulatory approach” and “quality of coordination between LTC and other services” characteristics derived from Mor et al. and Kraus et al. subjectively categorise the entire LTC system into three categories [1, 57]. As such, the groups assigned to countries for these characteristics have generally not been updated unless substantial information indicating a change to the country’s LTC system was identified, to ensure consistency between the original source and the values assigned in this report.

**Table 1. Categorisation and coding of typology variables for international LTC systems for older people**

Variable	Consumer friendliness score		
	3	2	1
Organisation and financing (based on Kraus et al. [1])			
Means-tested access	No means testing of access in both IC and HC	No means testing of access in IC, means testing of access in HC	Means testing of access in both IC and HC
Entitlement to LTC	Entitlement to both IC and HC	No entitlement to IC, entitlement to HC	No entitlement to either IC or HC
Availability of cash benefits	Cash benefits in both IC and HC	Cash benefits in either IC or HC	No cash benefits
Choice of provider	Free provider choice in both IC and HC	No provider choice in IC, free provider choice in HC	No provider choice in IC and HC
Quality assurance	Mandatory quality assurance in both IC and HC	Mandatory quality assurance in IC or HC	No mandatory quality assurance in both IC and HC
Quality of coordination between LTC and other services	Rather good – there might be some organisational challenges	Rather poor – provision of care is fragmented and often can pose a challenge for care recipients	Very poor – provision of care is very fragmented and poses regular or severe challenges for care recipients
Cost sharing	Cost sharing in IC, no cost sharing in HC, HNC	Cost sharing in IC and HC, no cost sharing in HNC	Cost sharing in IC, HC, HNC
Regulation of quality			
Responsibility for regulation	Central vs decentralised Single vs multiple		
Publicly available quality information	Public reporting of assessments (Y/N) Public consumer ratings (Y/N)		
Regulatory approach (based on Mor et al.[2])	Inspection-based regulatory systems	Professionalism-based regulatory systems	Data measurement/public reporting regulatory systems
Quality assurance	Descriptive		
LTC worker mandates	Descriptive		
Additional information on financing			
Source of funding	Descriptive		
Out-of-pocket costs	Descriptive		
Type of providers	Descriptive		

Abbreviations: IC, institutional care; HC, home-based care; HNC, home nursing care; HC, home care.

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## 4. Country summaries

### Nations with developed LTC systems for older people

#### *Australia*

The Australian Commonwealth Government is responsible for the funding and regulation of LTC in Australia, although all three levels of government are involved. Aged care is delivered through a number of programs including the Commonwealth Home Support Program (CHSP), Home Care Packages (HCP) Program, residential aged care, and flexible care [27, 58]. Australia provides universal access to care based on a needs assessment [8]. The government pays for the majority of aged care; however co-payments are required for those who can afford it.

The CHSP provides support for older people with a lower level of need who are able to continue living at home, with respite services for carers. Services include social support, transport, help with domestic chores, personal care, home maintenance, home modification, nursing care, meals and allied health services. CHSP providers receive funding through grants from the Commonwealth Government and recipients may also contribute to the cost of care [59].

Older people who need more assistance living at home may receive help via the HCP Program, which offers coordinated packages of personal and clinical care from an approved home care provider. Packages are tailored to the needs of individuals based on the principles of consumer-directed care, and are categorised into four set levels of support. Levels of subsidy range from \$8,250 for a level 1 HCP to \$52,250 for a level 4 HCP (March 2019) [60]. The level of availability of informal care is considered in the assessment. Recipients do not receive a cash benefit but a budget that they can choose how to allocate through an approved, chosen provider. Individuals approved for an HCP are placed on a national queue until a package becomes available and is assigned to them. In March 2019 there were approximately 75,000 people on a waiting list for an HCP [61]. Ninety-five per cent of these had also been approved for access to CHSP. If personal circumstances allow, people can be asked to make a financial contribution towards the cost of their care [62].

Older Australians who require more assistance than can be provided in their own homes have the option of moving into residential care on a permanent or respite (short-term) basis. Services include personal care, accommodation, laundry, meals, nursing and some allied health services. As is the case for many other aged care services, residential aged care is funded by the Commonwealth Government via subsidies to approved providers, with contributions from recipients [63]. The level of funding is based on assessment with the Aged Care Funding Instrument (ACFI). Allocation of residential aged care bed places to providers is undertaken by tendering for a set number of places determined by the federal government based on demographic estimates of requirements. Accommodation is treated as separate from care and daily living. People are expected to pay accommodation costs; a government

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accommodation supplement is available for those without the means to cover the cost of accommodation.

Most government funding for aged care is provided in residential facilities. As of 2018, providers of LTC facilities in Australia comprised a mix of private non-profit (60%), private for profit (approx. one third) and state or local government providers [64].

In Australia, the *Aged Care Act 1997* (Compilation no 71) suggests the numbers of care staff should be sufficient to meet the assessed care needs of the residents [65], without providing details on either numerical ratios or the optimal staffing mix. LTC workers do not have mandated training, although national training programs exist (30% of community care workers in 2008 had no relevant qualifications) [8]. There are no nationally mandated staffing ratios or qualifications for LTC workers. In 2017, a Bill was proposed for the introduction of mandated minimal skilled staffing ratios in Australia [46, 66]. In July 2019, it was announced that minimum staffing ratios will be introduced in Queensland by the state government to require at least 3.65 hours of daily contact time per resident, per day in Queensland's publicly owned aged care facilities, in addition to making staffing ratios publicly available [67]. Some publicly owned residential aged care homes in Victoria also have mandates for nursing staff [68]. These are one nurse per 7 or 8 residents during day shifts (in addition to one nurse in charge) and one for every 15 residents at night.

The Australian LTC sector is considered highly regulated [29, 69-71]. The responsibility for licensure and quality monitoring of LTC facilities is centralised within the federal government's Aged Care Quality and Safety Commission [72]. All organisations providing subsidised services are required to comply with national quality standards made up of eight individual standards: consumer dignity and choice, ongoing assessment and planning with consumers, personal care and clinical care, services and supports for daily living, organisations' service environment, feedback and complaints, human resources, and organisational governance [72]. Each organisation must undertake initial and ongoing assessment of care. The level of assessment will depend on the level of care and services the organisation provides [72]. Assessors from the Aged Care Quality and Safety Commission conduct unannounced inspections of residential aged care facilities. Consumer experience reports are completed for a minimum of 10% of residents and published publicly with the audit reports. Consumer experience reports are under development for home and community care.

### *Canada*

LTC services are not insured under the *Canada Health Act 1984*. Funding for LTC is governed by the provinces and territories and as such the range of services and cost of coverage varies greatly across the country [73]. Informal caregivers are estimated to provide 66% to 84% of care to the older population in Canada [74]. A combination of private for profit (44%), private not for profit (30%), and public facilities (27%) provide facility-based LTC [74].

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Access to care may depend on means testing, needs assessment and availability within capped budgets in some provinces [75, 76]. In Ontario, residential care was previously provided to a mix of residents with both low and high care needs; however from 2010 residential LTC services were restricted to those with very high needs [74]. This was a result of the province's aging-in-place strategy which increased funding for home care and enforced stricter eligibility criteria for residential facilities.

In Ontario, LTC is a part of the province's healthcare system and funding is made up predominately of public funding (70%) from provincial health insurance plans. Residents' co-insurance or self-payments make up 22% of funding for LTC. The remaining 8% is made up by "other agencies", "preferential accommodation differential" and "sundry earnings" [74]. Public funding of home care is provided either through government contract or government cash benefits for individuals to purchase their own services [77]. Medical services required within LTC facilities are covered by individuals' private insurance plans or the provincial drug benefit program [78]. For home care in Ontario and Nova Scotia, out-of-pocket costs are below the affordability threshold for people with a median income with low and moderate needs [79]. But as the number of hours of formal home care available is limited, it is likely to be unaffordable for those with severe needs [79].

Minimum training requirements are enforced for registered nurses by law but for other LTC staffing the requirements differ by province [50]. There are no national educational standards for unregulated care aide LTC workers in Canada. Training requirements for care aides differ across provinces, with approximately 84% reporting to have a care aide certificate. In Ontario legislation requires that there is at least one registered nurse on duty in residential care facilities [80]. In Alberta, there must be at least two staff members on site at all times including one registered nurse [81].

Quality control of LTC facilities in Canada is the responsibility of provincial governments; however nationally interRAI assessment instruments have been mandated and results are publicly reported online by the Canadian Institute for Health Information [82, 83]. In Ontario, trained inspectors inspect residential care facilities at least once annually randomly and without prior notice. All facilities require accreditation by either of the two external agencies [84].

### *Denmark*

Of the countries included in this review, Denmark has one of the most universal and comprehensive LTC systems. LTC is provided by funding residence in institutional care, special housing with nurses attached, or home help [85, 86]. Approximately 8.3% of the population act as informal carers [87].

Most of the system is organised and financed at the local level, where 98 municipalities adopt and deliver the bulk of LTC services. The regional level is responsible for primary health. There are no LTC policies at the federal level; however, there is agreement on general regulation

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and control of the economic conditions that drive local policies. The majority of LTC providers are public with approximately 14% of facilities privately owned [87].

There is a trend towards deinstitutionalisation of care for older people, with an emphasis on rehabilitative approaches and their integration into home help [86]. The majority (80%) of LTC services are provided as home care [87]. Rehabilitative measures have become a compulsory part of home help and are offered prior to the calculation of an older person's need for personal and practical home help [86]. There are reforms in housing, with the number of traditional nursing homes reducing and being replaced by care homes where the older residents have the status of tenants and apply for housing allowances.

LTC is financed through general taxation (90%) and predominately provided free of charge. LTC services are funded by local authorities using block grants from the federal government, local taxes and transfers from other local authorities [85, 87]. Whilst Denmark spends a high proportion of its LTC budget on home-based care, the number of hours of home-based care was low for many recipients as of 2007 [88].

Training requirements are mandated for nurses in LTC. There are national minimum requirements for training and qualifications; however this differs across municipalities [50].

Licensure and quality monitoring are the responsibility of the municipalities and local councils. Municipalities are obliged to undertake audits twice a year. Quality inspections are undertaken by local authorities, and one visit per year must be unannounced. Inspection reports are made publicly available [86].

### *England*

LTC is the responsibility of both the local and national authorities [89]. Local authorities provide publicly funded care to those who pass a needs assessment and means test. The majority of LTC services are delivered by private providers within independent facilities; 86% are for profit and 14% are not for profit. Residential care providers have the option to accept publicly funded residents or not [11].

The level of funding provided varies across areas. The central government determines how much local authorities receive for LTC and what they are obliged to spend funding on [90]. For those who are not eligible for publicly funded care, LTC is privately funded or provided by family and friends. In general, those with low-level needs do not qualify for LTC services but can still receive a cash benefit to fund community-based care [11, 79]. Overall, 50% of those requiring LTC are privately or self-funded, 37% fully funded, 12% partially funded and 10% funded through the National Health Service (NHS) [11, 91].

Regulations around staffing are similar in England to that in Australia, not specifying ratios or staffing levels specifically [92]. Professional education and training standards exist; however the enforceability depends on the staff category. Social and care worker training is less enforced than nurses' training [50, 93].

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The federal government within a national agency (the Care Quality Commission) is responsible for the licensure and quality monitoring of LTC facilities. Regular inspections collect qualitative and quantitative data on quality of care in LTC facilities, involving the use of consumers in peer review [93].

### *Germany*

Residents in Germany can access LTC through compulsory LTC insurance which covers both home and residential care. Enrolment follows compulsory enrolment in healthcare insurance. Insurance contributions are collected through income tax, with half paid by the employer [15]. Access to benefits requires a grouping into one of five grades based on an individual assessment of the need for care and taking account of the level of informal care available. Following reforms in the LTC sector in 2017, about 3.3 million people were re-grouped or re-assessed and were receiving benefits. LTC facilities are predominately private for profit (62%) or private non-profit (37%) and a small proportion are public (2%) [15].

For care at home, the scheme offers a wide range of both cash benefits for informal care, and in-kind benefits for various nursing and personal assistance services. Recipients are largely free to choose between cash or in-kind benefits, or a combination of both. They are also free to choose how they use cash benefits (e.g. for remuneration for a family carer), and which professional service providers they wish to use if they have opted for benefits in kind. Insurance helps with the arrangement of care by providing information on services, quality and costs, help with choosing the appropriate services and providers, and by supporting case management. The system covers basic needs and not the full cost of care [15]. Benefits are not received until six months after assessment [15].

In 2016, 80% of all beneficiaries were choosing cash benefits, on which LTC insurance spends 64% of its overall expenditure. All benefits are capped, leading to out-of-pocket costs in many cases. The government pays subsidies for voluntary additional private LTC insurance. In addition, local municipalities pay for the uncovered costs, e.g. in residential aged care homes, of people with low income through the tax-funded social assistance system [94]. LTC insurance for home and residential care is funded predominately by social insurance (90%) and private insurance schemes (10%) [94]. The contribution rate is shared between employers and employees; people without children pay an additional amount. People can opt-out and take up private insurance if they wish [21, 95].

Expert nursing standards apply to all nursing staff, for all care settings, and specifically address pain, falls, continence, discharge, wound, ulcer and nutritional care, which have high relevance to aged care. Education and training standards are mandated; however the level of training varies across regions. Less than half of home care workers have a relevant qualification [96]. Staffing numbers are mandated, with a minimum of 50% of residential aged care staff being registered nurses [40]. Different nurse-to-resident ratios are apportioned depending on the level of care required by residents (e.g. one full-time-equivalent (FTE) nurse

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is required for every four residents needing considerable care and nearly two FTE nurses are required for every resident needing highly intensive care) [40].

The responsibility for licensure and quality monitoring is decentralised at the state level. Contracts between providers and LTC funds are derived within each state. External medical review boards at the state level are responsible for routine, unannounced quality inspections that are publicly reported.

### *Japan*

Welfare policies for the elderly in Japan began in the 1960s through the *Act of Social Welfare Services for the Elderly 1963* [97]. In response to the increasing aging rate, free health care for the elderly was introduced in 1973 and in 2000 public, mandatory insurance was introduced through the *Long-Term Care Insurance Act* [98]. All people aged 65 and over are insured under the LTC insurance system, which covers both home and residential care. LTC services funded under the insurance system are provided when people aged 65 and over require care or when people aged 40–64 develop aging-related disease.

In a push towards integration of the LTC system and the health system, a care manager is assigned to each user of LTC who establishes a care plan with the user and their family to integrate required medical and welfare services [99]. Excess demand for institutional care has been met by new types of housing; as such the line between institutional and community care in Japan is now less distinct [100].

The majority of home care service providers are private. In 2014, 64% of home help providers, 40% of home nursing providers, and 58% of elderly day care service providers were for-profit, while most of the rest were non-profit. Residential services are predominately public or non-profit, as private residential services are only partly covered by LTC insurance [101].

Insurance is financed by 50% of general taxes and 50% from premiums of the insured. All users pay a co-payment of 10%, regardless of income. In 2015, a co-payment of 20% was introduced for persons above a certain income level [101]. Co-payments are capped and there are no cash benefits available. Out-of-pocket costs for someone on a median income are considered affordable [79].

In residential care in Japan, staff-to-resident ratios are mandated at 1:3 but there is no regulation around the mix of staffing qualifications [102]. LTC workers are certified in Japan and there are financial incentives for providers who offer ongoing training [103]. Mandated training, including an examination, is required for certified care workers and home helpers [103]. Community care workers do not require examined qualifications but are required to complete 130 hours of training [103].

Sub-national governments are responsible for the accreditation and licensing of LTC facilities and conduct quality assurance through inspections. Staffing and physical requirements must be met to gain accreditation. Annual reports must be submitted to the governor and results



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are publicly reported online. There are three complaint processes for clients and families; through a care manager, directly to the provider or through the LTC insurer [104]. There are financial incentives for providers that exceed requirements on a number of criteria including rehabilitation outcomes for care recipients, numbers of staff with particular expertise (e.g. nutritionists) and comprehensive care planning (see also “Pay-for-performance”, page 71) [103]

### *Republic of Korea*

Mandatory LTC insurance was introduced in the Republic of Korea in 2008 [105]. Everyone who contributes to health insurance automatically contributes a proportion of premiums to LTC insurance [105]. All people aged 65 and over are eligible for LTC. Eligibility for those under 65 years is restricted to age-related LTC needs, unlike some European countries with LTC insurance who allow access for people under 65 years with non-age-related disabilities [106]. LTC insurance provides both home and residential care services based on a needs assessment.

The vast majority of providers of LTC are private (99.5%). LTC is funded through a mix of insurance contributions (60%–65%), tax subsidies (20%), and co-payment by service users, which is 20% for residential services and 15% for home-based services. Low-income groups receive a 50% subsidy for the co-payment and those eligible for the medical aid program do not require a co-payment. Cash benefits are available only in exceptional cases [107]. The out-of-pocket costs for someone with a median income and severe needs are considered well above the affordability threshold, as the number of formal hours of home care is limited [79].

In Korea, care homes have mandated resident-to-staff ratios for geriatric nurses (1:25), care aides (1:2.5), physical therapists (1:40) and social workers (1:40) [108]. A national curriculum of minimum requirements for LTC workers is established. Care aides are certified. The National Health Insurance Corporation (NHIC) and local government are jointly responsible for quality assurance. Local government approves initial accreditation based on minimum national standards for staffing and the physical environment, whilst the NHIC is responsible for mandatory inspection of providers, conducted every two years [108]. Pay-for-performance and public reporting are used as quality control mechanisms. High-performing facilities receive incentives. Providers who rank in the top 30% and bottom 10% are publicly reported on a government website [107, 108].

### *The Netherlands*

LTC in the Netherlands has undergone comprehensive reform, most recently since 2015, and is now administered under multiple Acts [109]. The first, the *Long-Term Care Act*, regulates residential care and intensive home care for people who need 24-hour-per-day supervision [110]. Home nursing care and personal care are regulated by the *Health Insurance Act* and funded via health insurers [109].

Municipalities are responsible for household services, medical aids, home modifications, services for informal caregivers, preventive mental health care, transport facilities and other

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assistance. How these services, needs assessments and caregiver support is provided is largely up to individual municipalities (e.g. caregivers may be supported by respite care or a small allowance) [111]. The majority of LTC services are provided by private, non-profit organisations [111]. Needs assessments for formal care consider the amount of informal care that can be provided.

Municipalities provide funding through a block grant from the national government. The majority is financed through the social insurance scheme. In contrast to many nations, the mandatory LTC insurance is very comprehensive [112]. Out-of-pocket co-payments made up 8.7% of total spending on LTC services in 2015 [111]. Out-of-pocket costs for those with low or severe needs are considered affordable [79]. Personal budgets comprise approximately 7% of LTC expenditure and can be used to pay for informal care [113]. Beneficiaries of home care can opt for a cash benefit of approximately 75% of the value of care [113].

No mandated training is required for LTC workers and between 17% and 60% of care workers lack relevant qualifications, especially in home care settings. Family members are able to become care aides if they undergo training in formal government programs and receive certification as a care aide [50].

The central government and external agencies are responsible for LTC licensing and quality assurance. If individuals are unhappy with the quality of care, they have the option to change to another contracted provider, and to submit a complaint to the provider, administration offices and healthcare inspectorate. The healthcare administrations offices can set quality requirements when purchasing care under the *Long-Term Care Act* and are required to check that insurance companies' quality of care matches the production agreements [114].

### *New Zealand*

District Health Boards (DHBs) are responsible for the coverage and funding of LTC. Funded services are available for those aged over 65 and those "close in age and interest" (e.g., people with younger-onset dementia or a severe age-related physical disability). Medical care is included in the comprehensive services provided to eligible people, as well as home care for many and respite care for informal or family carers. In certain circumstances ongoing financial support can also be provided [115]. Residential facilities are mostly private, and all home care services are provided by non-government organisations (NGOs).

LTC subsidies for older people are means tested [115]. Payments are determined by the value of a person's assets in relation to a set national threshold. Those who have assets above the threshold pay the cost of their care up to a maximum amount. Individuals with assets under the threshold contribute the entirety of their income, except for a small personal allowance. The difference between these contributions and the contract price for the LTC is paid by DHBs. DHBs finance, in total, approximately 60% of LTC [116]. The cost of household management (e.g. cleaning) for people in their own homes is also means tested, and accounts for less than one third of home support funding. Personal care (e.g. showering) is provided at no cost [115].

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Staff ratios, certification ratios and adequate staffing levels are required. A handbook is available to determine the number of staff required in residential care. National voluntary standards are provided for home care; however, home support workers are not regulated or certified nationally. DHBs have the responsibility of mandating standards, including for staffing levels. In 2011, half of the DHBs made the voluntary standards a requirement within provider contracts [116].

The national government and DHBs are responsible for the licensing and quality assurance of LTC services. “Spot” auditing of LTC services with no prior warning is conducted annually. InterRAI assessments are required in the audits for both residential and home care facilities and data are publicly available at the national, regional DHB and population subgroup level. Data from particular LTC centres must be requested directly from the centre itself [116].

### *Poland*

Much of the care for older dependent people in Poland is provided informally, usually by family members. It is estimated that more than 80% of LTC is provided by families [117]. Nonetheless, public care for dependent older people is available through two sectors: the healthcare sector and the social sector [118]. Use of institutional LTC in those aged over 65 years is very low (less than 1%) [117].

Home-based and residential care is provided in both the health and social sector. Entitlement to services provided in the health sector is based on the assessment of health needs and means testing [20]. Services provided in the social sector can be obtained following a decision of the social assistance centre, which is based on income and family circumstances. Social assistance centres manage home care and day nursing homes for persons living with their family, whose members are not able to provide care due to their professional activities [119].

As LTC is mainly a family responsibility, LTC services financed by the public sector are only a small part of overall expenditure. The costs of services are shared by recipients; however priority access to services is given to those living below the social assistance minimum who are unable to contribute a large amount of the costs for care. Specific data on out-of-pocket costs as a percentage of GDP are unclear for Poland. Those accessing informal or private care receive little to no financial remuneration, so out-of-pocket costs are likely to be high [119].

In both the health and social sectors there are several types of cash transfers available to different types of beneficiaries, through social insurance, health insurance and general tax revenues. For older people, the nursing supplement (*dodatek pielęgnacyjny*) grants cash allowances to all people aged 75 or more who are entitled to social insurance, regardless of their need for care. Benefits amount to 208 and 153 złoty per month for health and social services, respectively, which are low and hardly cover the costs of informal or formal care services [20].

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There is some support for family carers; however only for those who resign from employment. There is a strong reliance on migrant carers (typically from Ukraine or Belarus), who are paid fully out-of-pocket and are usually not registered [20].

Quality standards established for residential care institutions cover three main domains: employment, procedures and accommodation standards, separately for the health and social sector. Currently, there are no national or regulated quality controls for those receiving informal care [20].

### *Russia*

In Russia, the constitution guarantees social support for all citizens, including older people and those living with disease or disability [120]. Although the LTC system in Russia is well-developed, minimal information is available in English on the details of the LTC system structure. Support for families caring for older people includes cash payments (benefits and subsidies) and indirect social transfers and is gender-oriented. The most used services are home care, including hospice, social services, “health resort at home” and various mobile social services (including “social taxi” services). A “Family Code” includes responsibilities of adult children caring for their disabled parents and in cases of increased need they are obligated to bear additional costs. Foster families can provide social services to older people living alone who need nursing care, with laws defining admission into the family, and contracts are entered into between the family and the care recipient. As of 2011 there were about four thousand institutions for older people and the disabled.

In 2011, the network of “social service institutions” was growing, mostly by construction of new residential care facilities – mainly smaller centres for 15–50 older people in rural areas. Services are also provided by non-profit organisations, volunteers and private centres in private–public partnerships. It was reported in 2010 that the satisfaction of older people with home social care was 97% nationally; 96% for home social and medical services; and 94% for permanent in-patient hospitals [120]. Inspections of the living conditions of older people with host families are undertaken in a systematic manner. No information on the approach to quality assurance of residential care was found.

### *Singapore*

In Singapore, there is an emphasis on the family as the primary caregiver with a “many helping hands” approach [121]. In general, the government provides the regulation, financing and settings for LTC but not the services, which are predominantly provided by informal carers or non-government voluntary welfare organisations (VWOs) [122]. VWOs provide approximately two thirds of the residential aged care places [123]. The remainder of services are provided by private for-profit providers [122]. There is also a heavy reliance on foreign workers; almost half of Singaporean families employ foreign domestic workers to help provide care for older people, supported by government discounts [121, 124]. In 2015, long-term social services and supports expenditure on people aged over 65 was split between government spending (42%),

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charitable donations (9%), LTC insurance (9%) and out-of-pocket costs (40%) [123]. An estimate of Singapore's expenditure on LTC was not available from the OECD but the total expenditure on LTC has been reported as 0.1% GDP in a 2016 report by the Lee Kuan Yew School of Public Policy [124].

Basic financial protection to those who need LTC is provided through ElderShield, which is an opt-out severe disability insurance scheme regulated by the government and run through designated private insurers. ElderShield provides a monthly cash payment to assist with out-of-pocket expenses up to a maximum period of 72 months. Older people and their families can choose nursing facilities or home-based healthcare providers, including hospice care, in accordance with the type of care and setting suitable to their needs. It will be replaced in 2020 by the mandatory government-run CareShield program [125], which is expected to provide increased payouts with no maximum duration.

ElderShield sits among other health insurance coverage provided through MediShield (catastrophic health insurance), MediSave (opt-out medical savings program), and MediFund (an endowment fund for those with low incomes who cannot afford health care) [122].

Singapore citizens and permanent residents with MediSave accounts are automatically enrolled for ElderShield when they turn 40 years old; however, participants can opt out of the scheme if they wish. Citizens are randomly allocated to one of three private insurers contracted to the Singapore government in a public-private partnership. Thus, financing is predominantly private through contributions rather than publicly funded. The insurers are appointed on five-year contracts through a competitive bidding process [123].

ElderShield premiums are based on the person's age when they joined the scheme and are payable until the age of 65. The premium amount does not increase with age. Participants can either use their own MediSave accounts or those belonging to family members in order to pay for premiums. There is a choice of a range of different insurance plans for enrolees and ElderShield supplements can be purchased from the appointed private insurers for higher levels of coverage [123].

There are prescribed staff-to-care recipient ratios in residential care and requirements for numbers of professional staff [126]. However, half of the foreign domestic workers that are commonly employed by families to assist in home care have no relevant experience or training [121].

Whilst nursing homes and other LTC providers are regularly audited and/or inspected by the Ministry of Health, detailed objective quality ratings are not publicly available [123]. To maintain service quality, the government equips VWOs with "best practice" operational guidelines and encourages adherence through licensing requirements, training and performance-based funding. At least once a year, most VWO establishments and programs are inspected by officers of the ministry. Centre-based care is not licensed in Singapore [127].

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## *Sweden*

The LTC system in Sweden is universal and decentralised, with a market-based approach driven by consumer choice [22]. The responsibility for LTC in Sweden is split over three levels of government. At the national level, the federal government is responsible for policy and legislation. The councils and regions are responsible for health and medical care. The primary responsibility for residential and home care is given to the 290 municipalities. How LTC is funded and provided varies across each municipality; however nationally LTC is highly subsidised and everyone is eligible.

LTC services are delivered by a mix of public and private providers, varying among municipalities. In 2014, approximately 30% of LTC services were privately provided. Around 20% of providers of residential care homes are private [128].

Approximately 90% of LTC is funded through taxation and out-of-pocket costs make up around 5% of care. User fees are determined based upon income but not assets, up to a set maximum, for both residential and home care [22]. The remaining 5% is funded at the national government level. Cash benefits play a minimal role and are decided locally; as such not all municipalities provide cash benefits. Out-of-pocket costs for home care are capped and income related [129]. Out-of-pocket costs for someone on a median income are considered affordable [79].

National training is not mandated for LTC workers; however, a voluntary four-year education program for staff with no formal qualifications has been introduced and public funding for training is available. It is up to the municipality to establish the training program, and as such this is not consistent nationally.

Licensure and quality monitoring are the responsibility of the municipalities. A number of different external agencies have developed clinical registries that publicly report data on LTC quality. Since 2008, national-level surveys have measured user satisfaction with LTC services across municipalities.

## *Switzerland*

The responsibility for LTC in Switzerland is decentralised to the cantons, who are able to delegate this responsibility to municipalities or private organisations [130]. Users have access to a mix of private and public providers for residential care. The majority of home care services are provided by not-for-profits. There is partial coverage for LTC through the compulsory health insurance [131].

In 2014, 29% of residential care facilities were state operated and funded, 31% were privately operated with public subsidies, and 40% were exclusively private. In home care, 37% were subsidised non-profit organisations, 14% were non-subsidised for-profit companies and 50% were individual healthcare workers [132].

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LTC services are billed directly to the user [130]. These services are primarily funded through private assets and retirement income from pension funds. Thus, out-of-pocket costs are high at 0.7% of GDP for LTC and private spending comprises more than 30% of LTC costs [50]. If an individual cannot fund care through those means they may be eligible for “national public old-age” and “invalidity” insurance schemes or social assistance from municipalities. Funding for residential facilities in 2014 was made up of private households (31%), old age and disability benefits (24%), mandatory health insurance or other social insurances (19%), and government subsidies (25%). Home-based care in 2014 was predominately funded by mandatory health insurance or other social insurances (35%) [132].

Most cantons have a licensing framework that covers nursing care; however, there are no national standards for staffing ratios. All nurses are required to be trained and registered with a bachelor or master’s degree. Nursing aides are required to complete three years of training followed by a theoretical and practical exam. Some cantons require continuing training each year [50, 133]. In the informal care sector, LTC workers are typically migrant workers with little training and quality control [130].

Quality control of both residential and home care is defined federally through legislation; however implementation of care is the responsibility of cantons and municipalities [130]. There is no nationwide implementation of quality assurance as a number of external organisations, such as CURAVIVA (an industry association of Swiss nursing homes), are assigned the task of quality control under the provider’s contract. Quality data are analysed and facilities with poor outcomes require reinspection. There is no obligation to make the results publicly available [130, 133].

### *United States*

Access to LTC in the USA is means tested, including with an assessment of assets. The majority of LTC is provided in the community by unpaid family and friends. Control of services is state-based so there are variations in provision nationally. The majority of providers are private for profit (70%), and the remaining are made up of private non-profit (23%) and public/government-owned (7%) providers [134].

Formal LTC services are predominately paid for by private individuals if they do not qualify for Medicaid or have LTC private insurance [82]. People are expected to contribute all of their income apart from a small allowance for living costs, i.e. there are significant out-of-pocket costs associated with care [79, 135]. Medicaid-funded LTC services are only available for individuals who are at poverty level and do not have personal assets and the ability to pay for care privately. Medicaid pays for approximately half of nursing home days but at a lower level of reimbursement than private insurers [136]. Private LTC insurance is not mandatory and only about 14% of citizens of 60 years of age or over in 2008 had private LTC insurance [137]; it accounts for only approximately 10% of spending. In residential care the majority of funding is from Medicaid (62%) and private sources (25%). A small proportion of residential care is

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financed through Medicare (13%) [138]. Affordability varies by state, but out-of-pocket costs for home care for someone on a median income may be unaffordable [79].

The federal USA government mandates one registered nurse for eight consecutive hours per day and one registered nurse and one enrolled nurse for the remaining shifts, but minimum staffing standards vary by state [139]. Nursing homes that receive Medicare and/or Medicaid funding for residents must meet the federal certification standards of the Centers for Medicare & Medicaid Services (CMS) and nurse staffing ratios [140]. Many states have staffing standards that are stricter than the federal guidelines; however, 35% of states do not require training for personal care assistants [50, 141].

State governments are responsible for the licensing and quality regulation of LTC services; however, they follow a set of uniform minimum national standards. The federal government is responsible for determining reimbursement of services and quality conditions must be met for services to receive these benefits. The Resident Assessment Instrument (RAI) Minimum Data Set (MDS) is used to monitor care plans and quality outcomes for residential facilities. Facilities are required to collect and publicly report this data [142].

### **Nations with minimally developed LTC systems for older people**

The developing nations named below have quite different demographics and economy to Australia (see Figure 4), with a much lower proportion of older people in the population and also a much lower GDP per capita. These countries have quite undeveloped LTC systems and a heavily reliance on informal care for older people in need of LTC, funded by families out-of-pocket [143-146]. In Brazil and Vietnam, legislation states that the main provider of LTC for older people is the family [146, 147]. Government-funded LTC is often only available for those who are impoverished and without family [146, 147]. Generally these nations have only a few private institutional or home care services available to the minority who are wealthy enough to be able to afford them [146]. Similarly, only those in formal employment and with greater means can afford contributions for private insurance schemes [148]. For some nations, little information is publicly available in English on the detailed structure of the aged care or LTC system.

#### ***Vietnam***

In Vietnam, approximately three quarters of people aged 60 and over in a rural setting live with their children [48]. The Law on the Elderly, which has been in effect since 2010, requires that families take the prime responsibility for the care of older people. Other people can also be authorised to take care of older people on behalf of the children. There are no home care or informal care supports [147]. Family caregivers are not entitled to any benefits, except in special circumstances. Older persons who are poor, are without close family and have no retirement pension can be provided with social assistance payments; however the number of beneficiaries is limited. There are 182 local social protection centres providing free support for just over 40,000 older people without dependents [149]. Due to the lack of availability of



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these centres, the government provides incentive payments for volunteer primary caregivers in the community to care for older persons who are unable to live in the community and are poor with no close family. Social assistance payments are provided to both the care recipient and the voluntary caregiver [147].

The responsibility for quality assurance rests at a federal level with the Ministry of Labour, Invalids and Social Affairs. Responsibilities include prescribing professional standards for and training of care workers; however training is not mandated. Staffing ratios are mandated within residential care for caregivers (1:8–10 for low-level care, 1:3–4 for high-level care) and for nutrition staff (1:20 for food purchasers and cooks) [147]. Institutions are required to submit annual reports to the federal authority. Whilst these residential care centres are highly regulated, they are not available widely; there were approximately 36% public, 36% NGOs or religious providers, and 27% private, of which 82% were licensed, in 2015–2016 [147].

### *Indonesia*

In Indonesia in 2015, there was no public coverage for LTC and no LTC insurance system [150, 151]. The responsibility for LTC comes under the coordination of the Ministry of Health, with delivery through the Ministry of Social Affairs and the National Board of Population and Family Planning [150]. The country spent around 0.1% of GDP on LTC prior to 2010 [151].

Indonesia has a strong emphasis on the provision of LTC at the family and community level. The government has legislated that local communities must make community health services available to older Indonesians [152]. In 2016, the country launched the National Strategic Plan for the Elderly, which made *puskesmas* (state-funded community health centres) the main provider of health care and LTC for older people [152]. Laws dictate that the widespread community health posts (*posyandu*) provide free health check-ups, organised peer groups and social activities for older people [152]. However, the minimum requirements for provision are not met at many centres. The government encourages an integrated service at the local level through these health posts, aiming to identify early malnutrition and other health problems through the involvement of volunteers in managing a monthly check-up and health education. Community leadership is needed to provide these services. Service provision is dependent upon local government, volunteers without specific qualifications and local leadership. There is often religious involvement. However, skills limitations pose a challenge for LTC at these centres [150], as does lack of volunteers and difficulties for older people in accessing transport to centres.

Some outreach nursing services for those living at home are provided, to a limited extent [153]. Private providers have begun to offer nursing and home care services to people who can afford this [153]. Residential aged care in Indonesia is highly limited and only a few private organisations provide institutional LTC [150, 153]. There is little available information on these.

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Home-based LTC care is predominantly provided by informal caregivers and it is a cultural expectation that family members become informal carers of older people [153, 154]. Some home care programs have been developed at the local level where skilled caregivers provide assistance in both basic and instrumental ADLs [153]. These are well conducted if the local integration of health and social services is good. Volunteers also provide LTC for older people who live alone and do not have family [150]. In some regions, these volunteers receive a small stipend for transport from NGOs and/or from the local government [150]. Respite care is not available [153].

Training programs for informal carers are very limited. Funding is cooperative and at the local level, posing a challenge in remote areas and resistance from some caregivers without training. Strengths of the family-based LTC are the low costs and acceptance by family and community [150].

### *Central and South America*

Mexico relies on informal support as the mainstay of LTC, with a few available NGOs and private for-profit providers [143]. The National Population Council, CONAPO, estimated that 73% of the Mexican population over 60 years of age was living with close relatives in 2000 [155]. There is no publicly funded LTC system and no benefits available for informal carers [8, 143, 156]. There is also no publicly funded care, no registration of LTC institutions and few trained LTC workers [143]. A small proportion of the population access private LTC insurance schemes.

Brazil provides some residential care for older people without family [146]. Less than one per cent of the population in need of LTC are using institutions.

Argentina has almost ten per cent of the population of Argentina aged 60 or over dependent upon LTC services, but there was no clear government LTC system as of 2015 [146]. Only 2.9% of older people live in some type of residential care including adapted housing. There is limited access to residential or home care services for those older people in need who are impoverished to the level of having insufficient funds for survival. A few religious organisations provide services. Private schemes are estimated to cover no more than eight per cent of older people with higher incomes. There are no regulations covering LTC workers.

### *Sub-Saharan Africa*

In Sub-Saharan Africa, there is generally little support or training for families providing informal care [157].

Institutional care is relatively new and often not available in Ghana [157]. In 2010, Ghana introduced a National Ageing Policy; however there had been little implementation by 2017 [158]. It has been stated that cash-for-care may exacerbate existing inequalities [157].

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Kenya had only approximately 16 LTC facilities in 2017 and the main providers are religious organisations [145]. These institutions are not regulated by the state [148]. Pilot cash transfer schemes were introduced in 2006 [159], with “positive outcomes” in first phase of implementation [160].

South Africa also provides little publicly funded LTC and only a small portion of those who need support receive any. There is little support for informal caregivers. Residential care is provided mainly by NGOs or religious organisations, and only 2% by government [161]. Though South Africa has standards that outline acceptable levels of service [161, 162], audits have found many facilities to be partially non-compliant. The WHO states that quality of care is uncertain and LTC workers lack training [162].

## **Other considerations in quality regulation and assurance**

### *Donabedian model of healthcare quality assessment*

Until recently, in Australia quality regulation has been focused on process, i.e. how care is delivered. In July 2019, new quality standards with more focus on the outcomes of care were introduced by the Aged Care Quality and Safety Commission for all Commonwealth Government–subsidised services [163]. Data on quality indicators such as pressure injuries, use of physical restraints and unplanned weight loss are now required to be reported to the Department of Health and will be made publicly available [163].

More recently, standardised interviews with consumers have been included in accreditation audits and consumer experience reports are now publicly available [18]. Organisations can provide evidence that they are meeting the standards based on consumers’ views to quality assessors from the commission, and providers must provide a statement of outcome for each care recipient [164].

Several countries have included care recipient outcomes into quality regulation. In general, this is in addition to quality assessment based on structure and/or process measures. Examples include:

- a) Canada, New Zealand and the USA have included interRAI assessments (a standardised multidimensional clinical assessment) to varying degrees in the regulatory approach. The USA introduced use of mandatory reporting of outcomes data in residential care in 1987 with implementation of the Minimum Data Set (MDS) [142]. The introduction of this monitoring and reporting has been said to lead to improvements in these quality indicators over time [142]. New Zealand is the first country to mandate the use of interRAI assessments in both residential and community aged care [165]. The interRAI takes a clinical approach and includes a range of assessments such as function, mobility, communication ability, behaviour and physical restraint use. In Ontario, Canada, quality inspectors also interview

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residents, staff and family members, review resident health information and directly observe the provision of care [84].

- b) In the Netherlands, quality indicators have a strong emphasis on care recipient experiences obtained from questionnaires, including items addressing quality of life such as daytime activities, reliability of caregivers and the quality of the provider including the availability of professionals [166]. There is also emphasis on indicators of quality and safety including prevalence of ulcers, antipsychotic and restraint use, and behavioural problems.
- c) In Singapore, providers are required to submit information on care recipient function (the Modified Barthel Index) in both home and residential care, plus information from client satisfaction surveys in home care [167, 168]. Function is to be measured at least every six months.
- d) In the Republic of Korea, care homes are evaluated every three years by the Korean Ministry of Health and Welfare as part of a publicly available rating of the quality of all care homes [169]. This evaluation includes a rating of quality based on six items relating to care outcomes, considering the residents' satisfaction with the home, their improvement in function and dependency levels and health [169]. The Republic of Korea specifically includes assessment of the number of residents in institutional care with an improvement of function (activities of daily living) in the first 6 months.
- e) In England, regulation had previously focused on structural and procedural aspects of care [93]. However, currently the Care Quality Commission is emphasising consumer views [170]. Ratings from inspection reports are publicly available and inspections include a focus on observing care and whether the care service is effective. Inspection teams may include "Experts by Experience" who are either care recipients or family carers.

An emerging approach is to encourage clinical quality registers which are relevant to older people living in residential aged care. Sweden has comparatively few regulations for quality assurance but nevertheless is considered to deliver a high quality of LTC services [22, 171]. Sweden has a strong emphasis on user satisfaction through publicly available surveys and ratings [22, 171]. These have been criticised due to low participation, particularly from residents in institutional care [171]. However, Sweden has a large number of registers and surveys that are not necessarily aged care specific but include LTC users. These report on items such as inappropriate drug use and polypharmacy, satisfaction with home help services and whether staff in residential care have sufficient time to provide care [171]. They include Senior Alert (giving information on falls, pressure areas, and malnutrition) a Dementia Registry and a Palliative Care Register. Data on these outcomes are publicly available to consumers through open comparisons [172]. In addition, the registers allow academic groups to examine care delivered (e.g. for dementia or drug prescription) against clinically agreed standards. Uniquely, South Australia has a register of all older people who receive an ACAT – the Register of Senior Australians (ROSA). A strength of this register is it is a clinical register

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that has independent governance. However, at present it is not leveraged for quality assurance activities.

### *Human rights*

Many older people in need of LTC live in residential care and this is usually their final home. Often residents and families report a lack of control, choice and voice [173]. Legislation and regulatory control do not appear to be sufficient to guarantee quality of care and this is a challenge internationally. It has been stated that securing consistent high-quality local implementation of regulations set by a distant central government can be more problematic than implementation of locally developed regulations [173]. There is no international human rights convention for the rights of older people, although a United Nations treaty has been proposed [174]. Dementia Alliance International has recently made a submission on human rights for people living with dementia to the United Nations Committee on the Rights of Persons With Disabilities [175]. Incorporation of the principles of human rights into aged care standards is an approach to the regulation of LTC quality that some nations have taken in an attempt to improve quality of care. Key examples of such approaches are outlined below.

- In Ontario, Canada, the *Long-Term Care Act 2007* includes the Residents' Bill of Rights and a guide to the Act indicates how the principles are linked to regulation [176]. The Act also includes principles on minimising physical restraints and having an interdisciplinary program of restorative care to maximise the independence of residents to the greatest extent possible. The Act refers to changed behaviour as "responsive behaviours", a recognition that changed behaviours often indicate an unmet need. The Act also emphasises a holistic approach to assessment. The regulations outline approaches to care including identification of behavioural triggers, additional training for direct care staff to manage responsive behaviours, and that guidance on responding to behaviour must be provided in orientation for volunteers.
- In Japan, there is specific human rights protection legislation for older people, including prohibition of physical restraints in residential care as a condition for a facility to be certified for the public LTC insurance [97]. A guidebook for "Zero Physical Restraint Movement" states that physical restraints are a violation of human rights and outlines physical restraints that are prohibited, including the use of mittens and overdosing on psychotropic drugs (see Box 1). However physical restraints can be used when three conditions are proven: (a) that lives are threatened, (b) that no other option is suitable, and (c) that the restraint use is temporary. LTC insurance payments can be reduced if a care home uses physical restraints without documentation. Enforcement of this is reliant on audits of documentation, not observations. Japan also has a national day to honour older people [97].

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**Box 1. Physical restraint procedures prohibited in Japanese facilities certified for LTC insurance [97].**

- Tying a person to a wheelchair/bed to prevent wandering
- Tying a person to a bed for fall prevention
- Using siderails to keep a person in bed
- Tying limbs to prevent a person from pulling out IV/feeding tubes
- Applying mittens to prevent a person pulling out IV/feeding tubes or tearing skin
- Restricting a person with belts or tray tables to prevent from sliding or rising from a (wheel) chair
- Using a chair to prevent a person from being able to stand up
- Using overalls over clothing to impeded removal of clothes/diapers
- Tying a person to a bed to prevent them from causing trouble to others
- Giving an overdose of psychotropic drugs to reduce excitement
- Locking a person in a room

- England also has a human-rights-based approach to aged care regulation [11]. Many stakeholders including the Equalities and Human Rights Commission were involved in the design of the regulation standards in the *Care Act* in England [11]. Rights are incorporated into the care system through the Deprivation of Liberty Safeguards and the *Mental Capacity Act 2005* [11].
- In the USA, the Nursing Home Reform Law includes a set of basic rights for people in care, including the right to exercise self-determination, to participate in review of their care plan, to “voice grievances without discrimination or reprisal” and the right to freedom from physical restraints [177]. Nursing homes are also required to provide a

“home-like environment; meeting the needs and desires of residents in terms of waking up and going to sleep, dining, dressing, bathing, etc.; and promoting care for residents in a manner and in an environment that maintains or enhances each resident’s dignity and respect”. [177]

- In the Republic of Korea, the public evaluation of care homes by the Korean Ministry of Health and Welfare includes a rating of quality. This is based on ten items relating to human rights and accountability, including considering whether care workers respect and acknowledge residents’ human rights and if the home is managed ethically [166].

In Australia, a Charter of Residents’ Rights and Responsibilities has been recently replaced in July 2019 by a new Charter of Aged Care Rights, following a period of public consultation [178]. These rights are quite high-level and do not include statements as explicit as some of the examples outlined above. In Australia, the charter is not formally linked to any legislative requirements [11].

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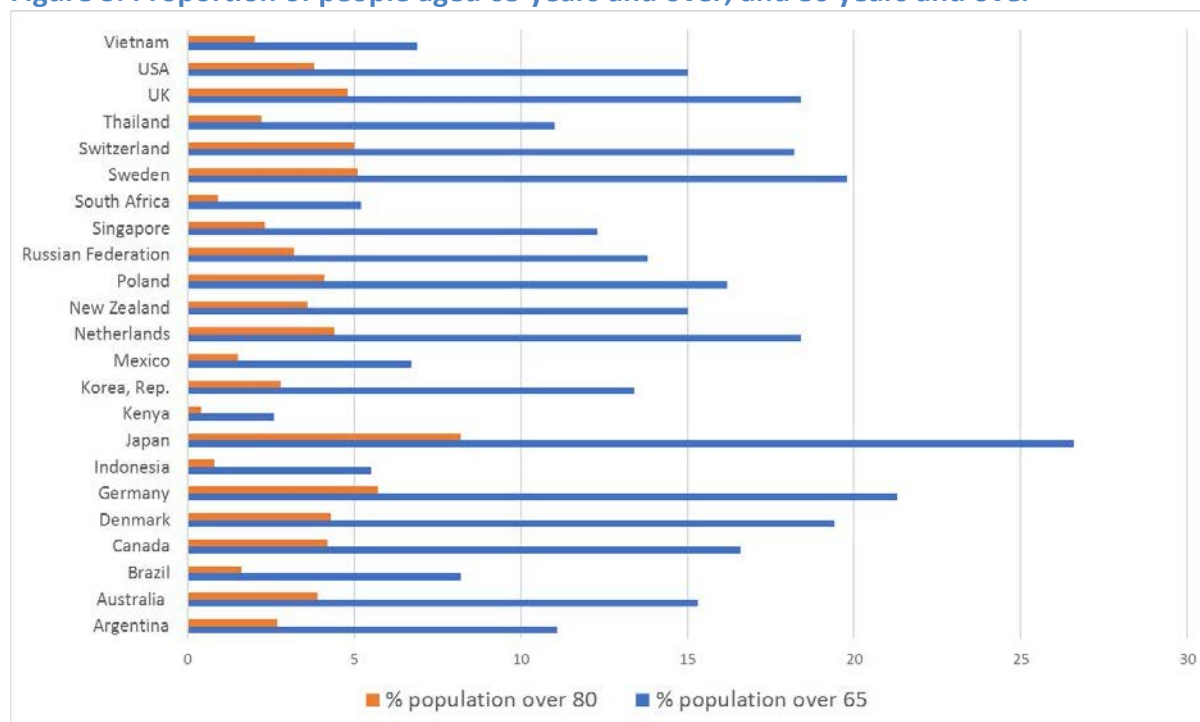
## 5. Comparisons of quantitative measures

### Demographics of the older population

The relative need for LTC for older people is closely linked to national demographics, i.e. the relative age profile of different countries. The incidence rate of dementia is age specific, with the incidence rate increasing with age [3]. In Australia, the incidence of dementia within the population accessing aged care may be falling [179]. However, the prevalence of people living with dementia will continue to rise due to the aging population and this is likely to drive an increasing demand for LTC [3]. Estimates of dementia prevalence by global region indicate that the age standardised prevalence of dementia for those aged 60 and over in Australasia is 6.9%, which is similar to Western Europe and North America [3]. The age-standardised prevalence of dementia in South East Asia is not dissimilar. Central and Eastern Europe and Sub-Saharan Africa have lower standardised prevalence rates but Latin America has a higher standardised prevalence [3]. Differences in the age structure of the population (Figure 3) will also drive differences in the absolute numbers of the population with dementia requiring LTC support across nations. For example, in Sub-Saharan African nations there is both a lower standardised prevalence and low proportion of the population that is older, so the absolute number of people living with dementia will be low in comparison to other nations.

Figure 3 presents the proportion of people aged 65 years and over, and 80 years and over, across a range of countries. In Australia in 2017, people aged 65 years and over made up 15.5% of the overall population, and people aged 80 years and over made up 3.9% of the overall population. This was similar to many other developed countries, including the USA, New Zealand, the Netherlands, Denmark and Canada. In all these countries the proportion of people aged 80 years and over has been rising (see Appendix 3) and is likely to continue increasing over time. Japan, Germany, Switzerland and Sweden are examples of countries where the need for aged care is already relatively high. The lowest proportions are observed in Kenya, South Africa and Indonesia.

**Figure 3. Proportion of people aged 65 years and over, and 80 years and over**

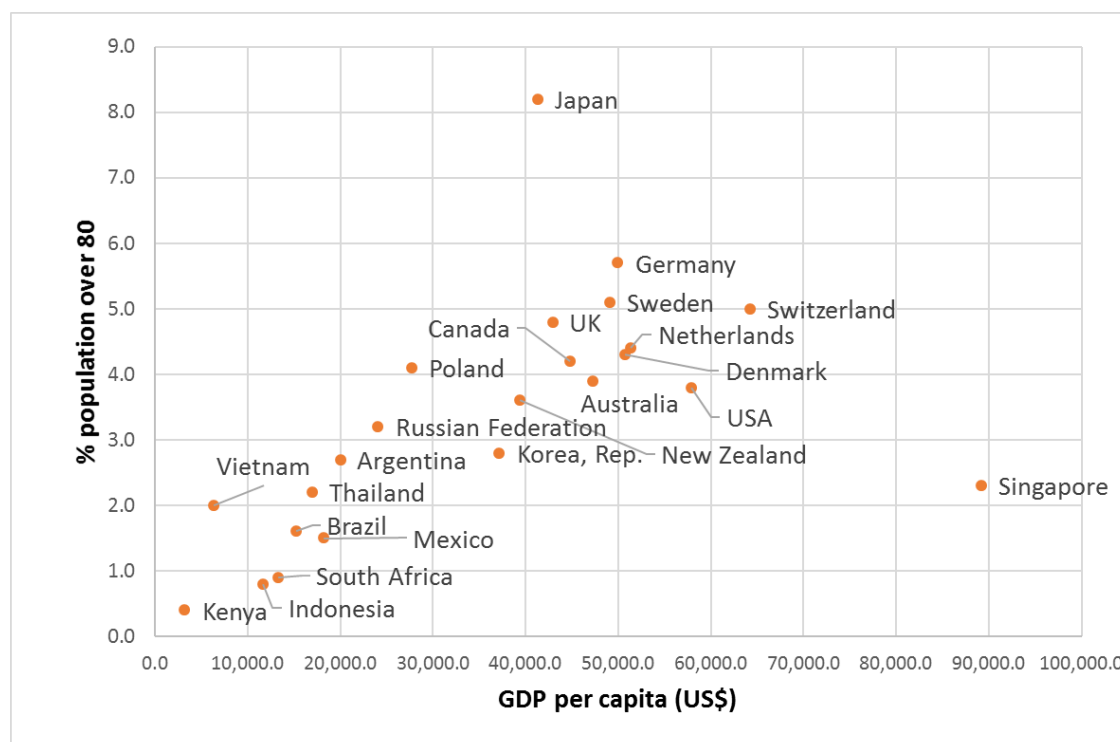


Source: Data extracted on 6 May 2019 from [https://stats.oecd.org/index.aspx?DataSetCode=HEALTH\\_STAT](https://stats.oecd.org/index.aspx?DataSetCode=HEALTH_STAT), <https://population.un.org/wpp/DataQuery/> and <https://databank.worldbank.org/data/source/world-development-indicators>

The proportion of people aged 80 years or over is closely linked to a country’s GDP per capita (Figure 4). Japan is an outlier, with a relatively low GDP per capita for the size of its older population. At the other end of the spectrum, Singapore has a relatively young population with a large GDP per capita. Australia most closely resembles Canada, Denmark and the Netherlands, but is also similar to New Zealand, the UK, the USA and Poland in terms of its age structure, with a similar GDP per capita to Canada, Germany and Sweden. Due to similarities in terms of demography and resources, these countries may provide useful comparisons to Australia. Notably, Germany has a similar GDP per capita to Australia, but its share of the population aged 80 years and over is almost 50% larger.



Figure 4. Percentage aged 80 years and over against GDP per capita (current USA\$, 2016)



Source: Data extracted on 6 May 2019 from [https://stats.oecd.org/index.aspx?DataSetCode=HEALTH\\_STAT](https://stats.oecd.org/index.aspx?DataSetCode=HEALTH_STAT), <https://databank.worldbank.org/data/source/world-development-indicators> and <https://population.un.org/wpp/DataQuery/>

## Recipients of long-term care

### Formal care

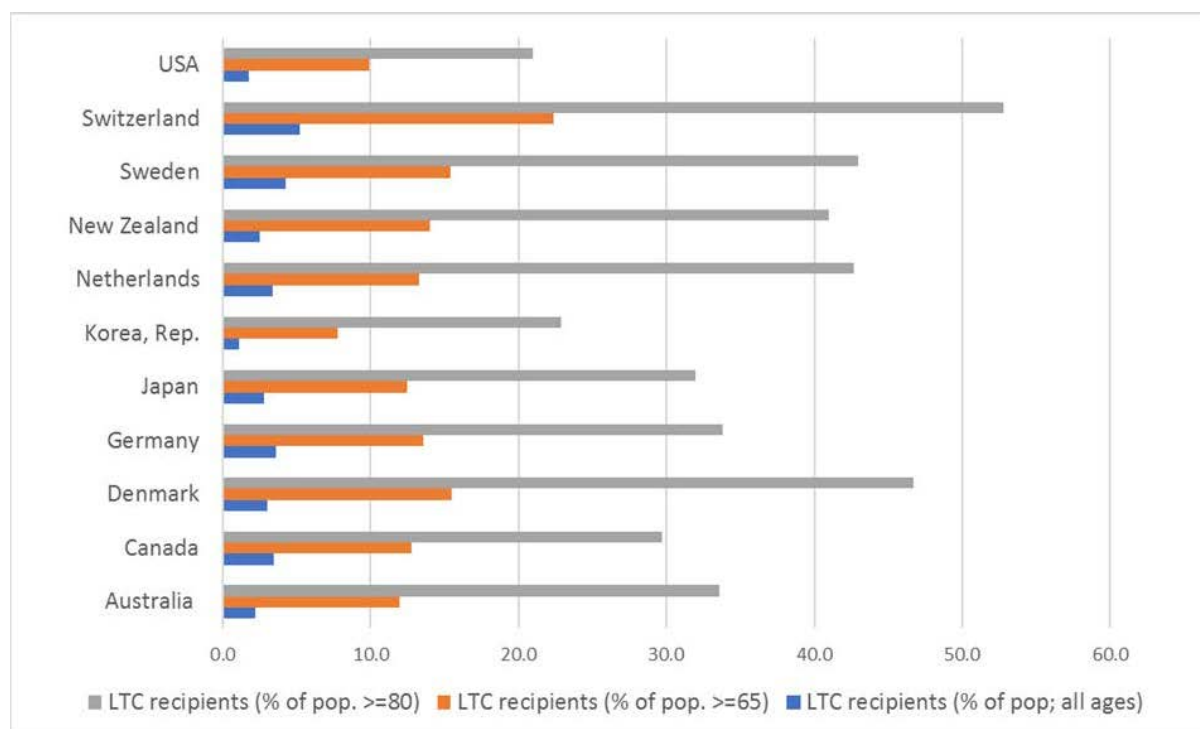
Figure 5 shows the proportion of people who are recipients of formal LTC (of any type), by age group.

In general, Australia appears to provide a moderate level of coverage compared with other nations. Switzerland provides LTC to a relatively high proportion of people aged 65 and over (> 20%) and 80 and over (> 50%). Switzerland, Sweden, New Zealand, the Netherlands and Denmark all have more than 40% of people 80 and over receiving some form of LTC; in Australia the rate is 33.6%. Notably, Denmark and the Netherlands achieve this despite only having a slightly higher GDP per capita than Australia but also a slightly older population (see Figure 4).

Coverage of the population does not capture the comprehensiveness or adequacy of the level of care for those in the LTC system [8]. Some nations such as Sweden may provide broad coverage with limited levels of care through public funds, and those who can supplement this with additional support through private services can obtain a higher level of care [22]. Switzerland also has a reliance on private financing (see Chapter 4, page 28). This may be

reflected in the number of care workers per care recipient and in the share of LTC expenditure paid out-of-pocket.

**Figure 5. Percentage of population receiving LTC (2016)**

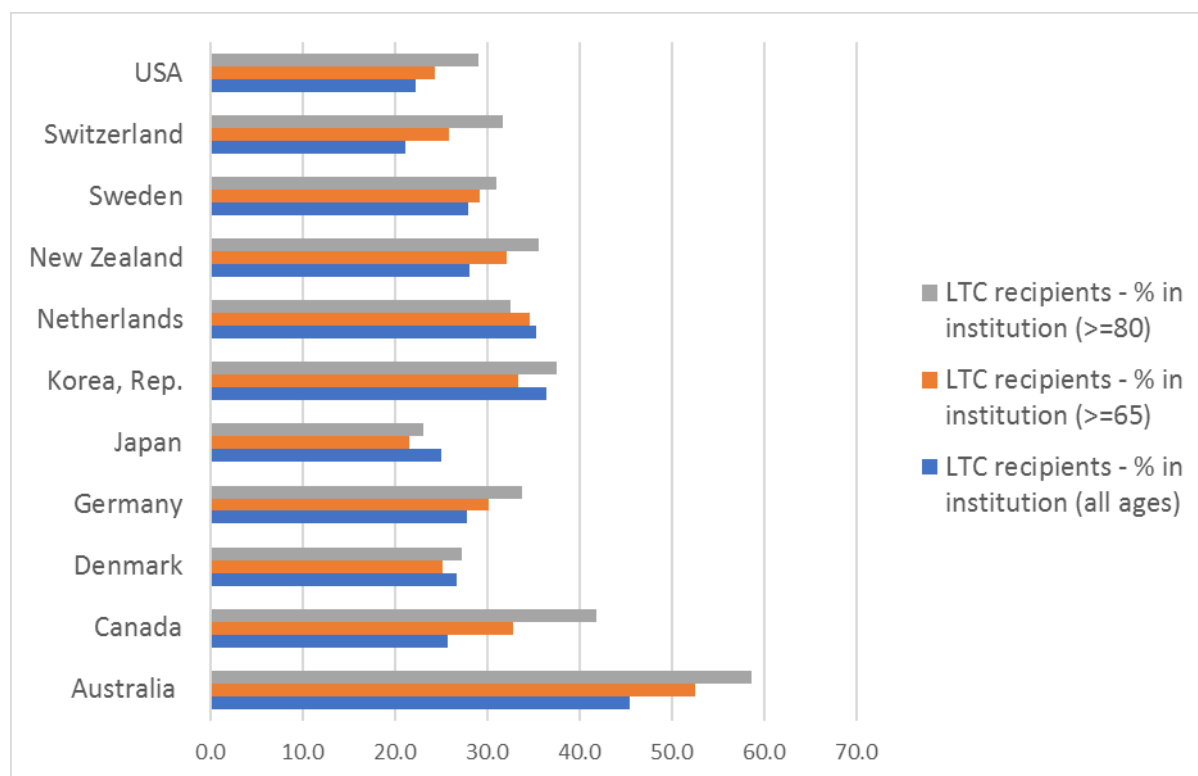


Source: Data extracted on 6 May 2019 from [https://stats.oecd.org/index.aspx?DataSetCode=HEALTH\\_STAT](https://stats.oecd.org/index.aspx?DataSetCode=HEALTH_STAT)

Figure 6 and Figure 7 show the proportion of LTC recipients who are in institutions and at home, respectively. Compared to other countries, Australia has a relatively high proportion (around 45%) of LTC recipients in residential care, and this proportion is even higher among those aged 65 and over, and aged 80 and over. The corollary of this observation is that most other countries support a greater number of their LTC recipients in non-residential programs, i.e. through home and community care. The differences in these proportions may be exacerbated by the exclusion of CHSP recipients receiving assistance only for IADLs; however Australia’s high use of institutional aged care relative to other nations is also apparent in the percentages of the older population receiving LTC in institutions (Figure 8).

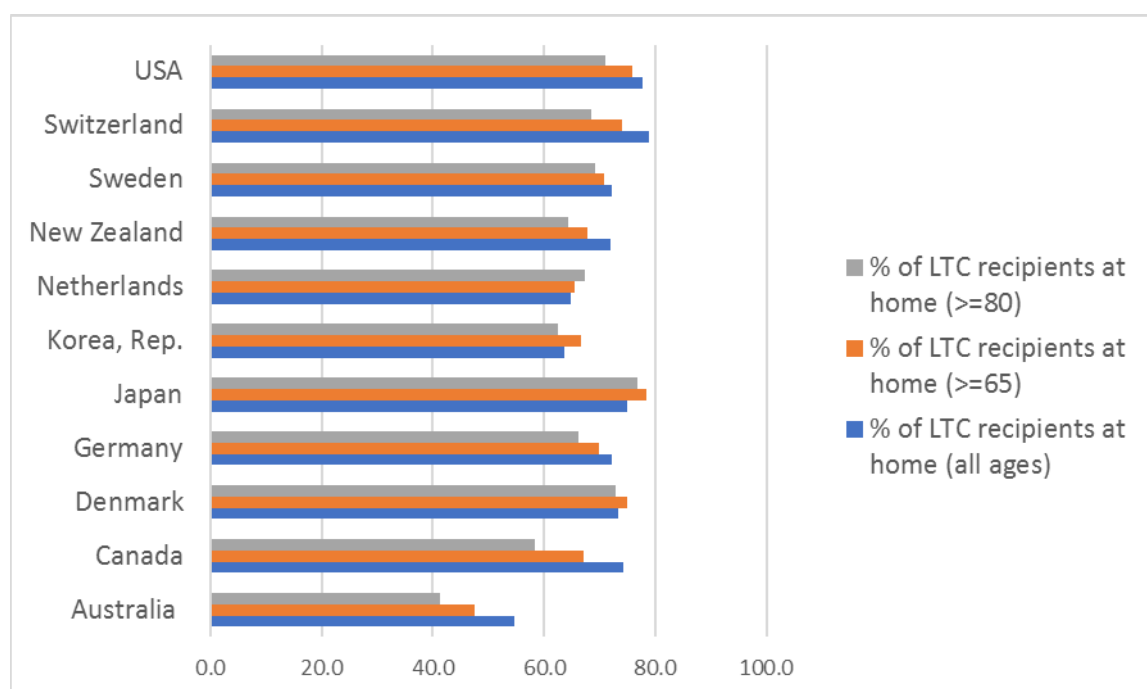
The lowest rate of institutional-based care is observed in Japan, where only 25% of LTC recipients are in an institution; however, this may be understated as the distinction between institutional care and community-based care in Japan may be less clear [100].

**Figure 6. Percentage of LTC recipients in an institution (2016)**



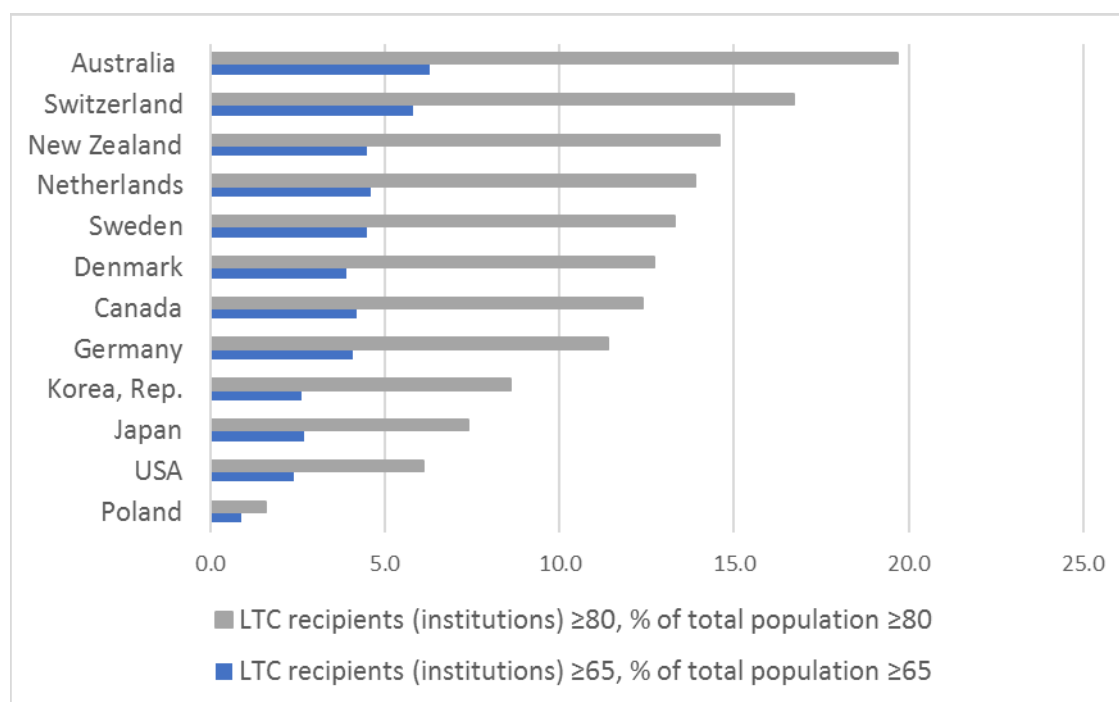
Source: Data extracted on 6 May 2019 from [https://stats.oecd.org/index.aspx?DataSetCode=HEALTH\\_STAT](https://stats.oecd.org/index.aspx?DataSetCode=HEALTH_STAT)

**Figure 7. Percentage of LTC recipients at home (2016)**



Source: Data extracted on 6 May 2019 from [https://stats.oecd.org/index.aspx?DataSetCode=HEALTH\\_STAT](https://stats.oecd.org/index.aspx?DataSetCode=HEALTH_STAT)

Figure 8. Percentage of older population receiving LTC in institutions

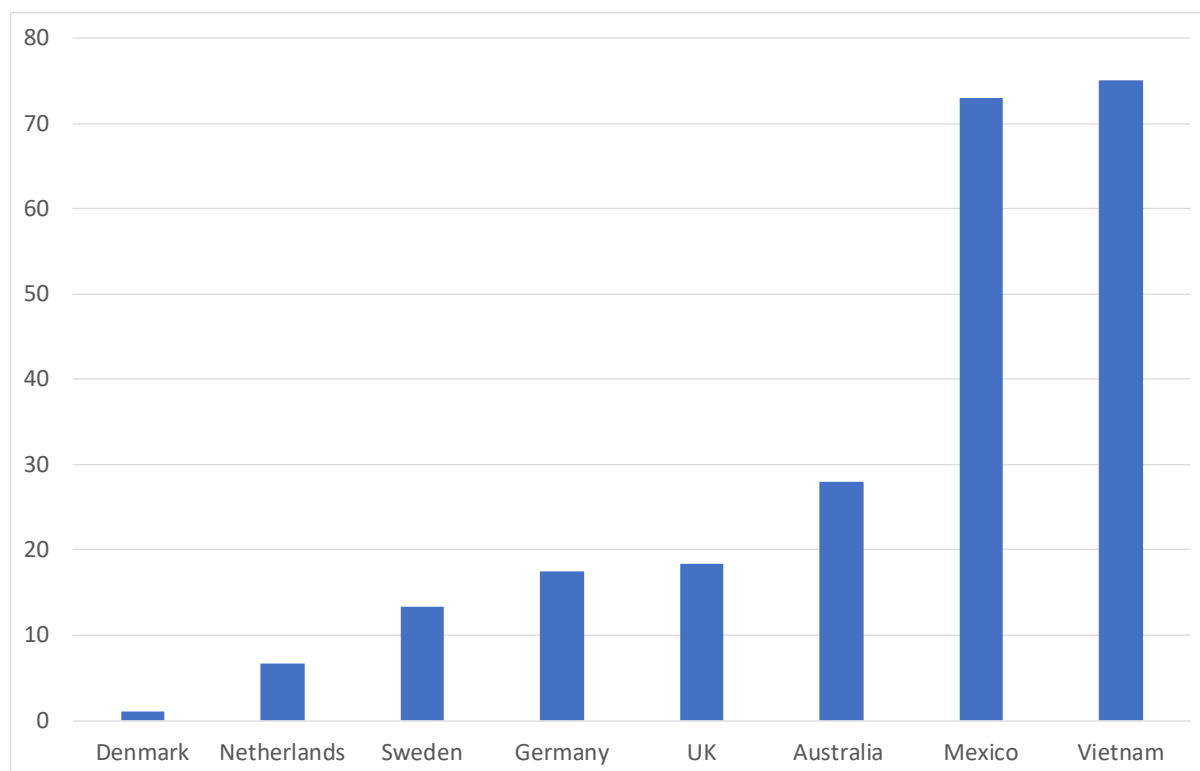


Source: Data extracted on 6 May 2019 from [https://stats.oecd.org/index.aspx?DataSetCode=HEALTH\\_STAT](https://stats.oecd.org/index.aspx?DataSetCode=HEALTH_STAT)

### *Informal care*

Information on the use of informal care for selected countries is provided in Figure 9. The rate of informal care in Australia appears higher than other OECD countries with similar age structures; Denmark and the Netherlands provide the lowest rates of informal care. In comparison, the majority of LTC in the nations with less developed LTC systems, Vietnam and Mexico, is provided by informal care.

Figure 9. Percentage of people aged 65 years and over receiving informal care (2016)



Source: Kraus et al. [1]; Cullen [6]; Note: Mexico: estimated in 2000, 73% of population  $\geq 60$  years lived with close relatives [155]. Vietnam: approx. 75% rural people  $\geq 60$  lived with their children [48].

## Expenditure

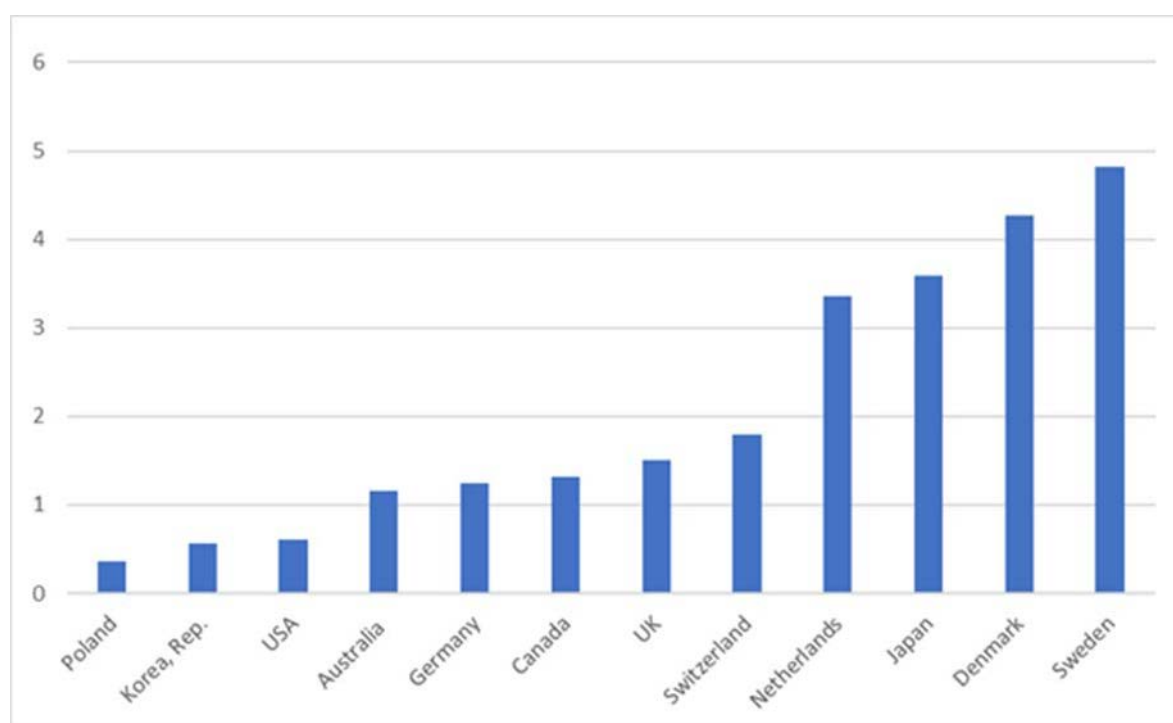
Figure 10 presents the 2015 expenditure on the health component of LTC paid by government or compulsory insurance schemes, plus social expenditure on old age as benefits in kind as a proportion of GDP. Cash benefits provided for LTC for the aged are not captured.

The Netherlands, Japan, Denmark and Sweden spend between 3 and 5% of their GDP on LTC. The lowest expenditure is by Poland and Korea. Singapore's expenditure on LTC has also been reported to be very low (0.1% GDP in 2014 [124]); however the comparability of this figure to the OECD data reported in Figure 10 is uncertain.

**Australia's overall expenditure on these components of LTC including social care for the aged is 1.2% of GDP.** This appears similar to Germany's expenditure and higher than the USA. However, Germany's expenditure may be underestimated as these data may not capture the cash benefits in the German system. Only USA institutional expenditure may be captured in these OECD expenditure figures [50]. Social LTC benefits in the form of in-kind expenditure for aged care were not reported for Canada or Poland.

The data on the provision of LTC workers and infrastructure across different countries in this report also reflect national expenditure on LTC.

Figure 10. Expenditure on LTC for older people as a percentage of GDP (2015)

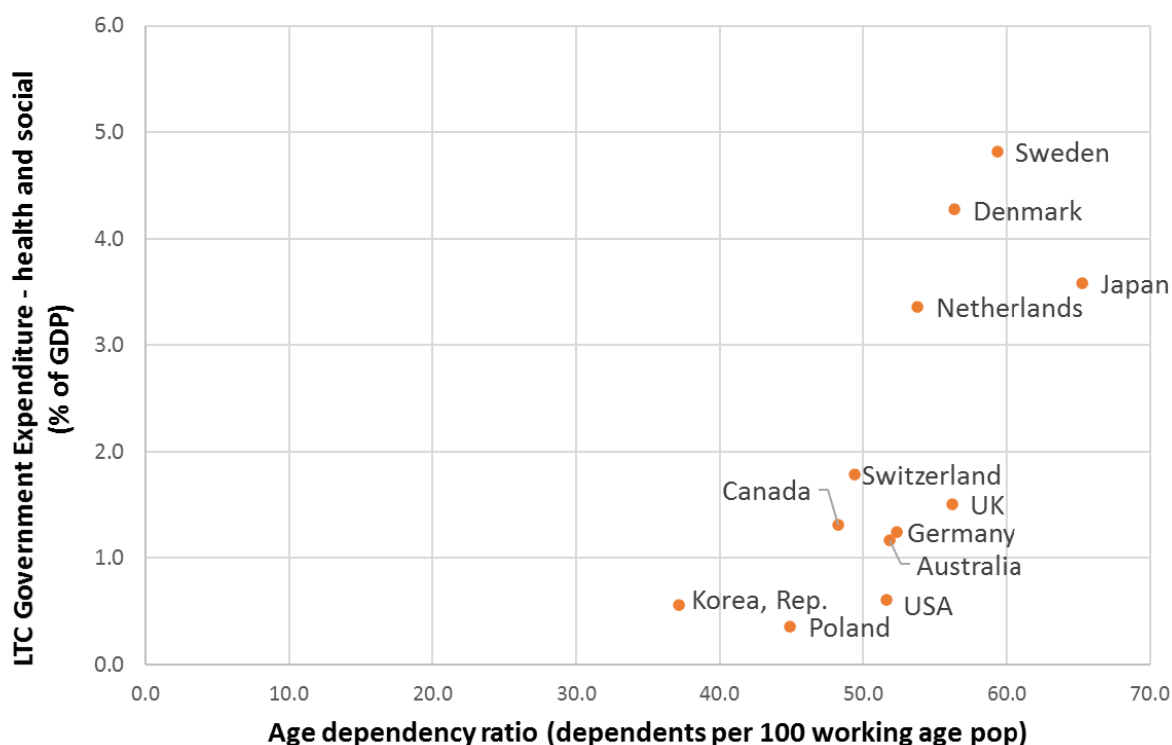


Source: Data extracted on 15 September 2019 from OECD.stat. Includes health components of LTC expenditure and social expenditure on old age benefits in kind<sup>iii</sup>. Social expenditure as old aged benefits in kind not reported for Canada or Poland. Germany reports zero expenditure as benefits in kind. Expenditure for the USA may only include institutional care [50].

Figure 11 shows that, amongst Western nations with generally similar demographic profiles (e.g. Germany, Australia, USA, Netherlands; see Figure 3), there is little relationship between government expenditure on LTC and the national age dependency ratio. There is also little relationship between the dependency ratio and GDP per capita for these nations (see Appendix 3, Figure 26). Japan has a high dependency ratio relative to the proportion of GDP spend on LTC. Poland and Korea have both lower dependency ratios and lower government expenditure on LTC.

<sup>iii</sup> This approach excludes cash benefits for LTC for the aged, thus is likely to under-estimate expenditure for nations providing cash benefits (see Appendix 2, Table 4 to Table 6), including Germany, the USA, Canada and England.

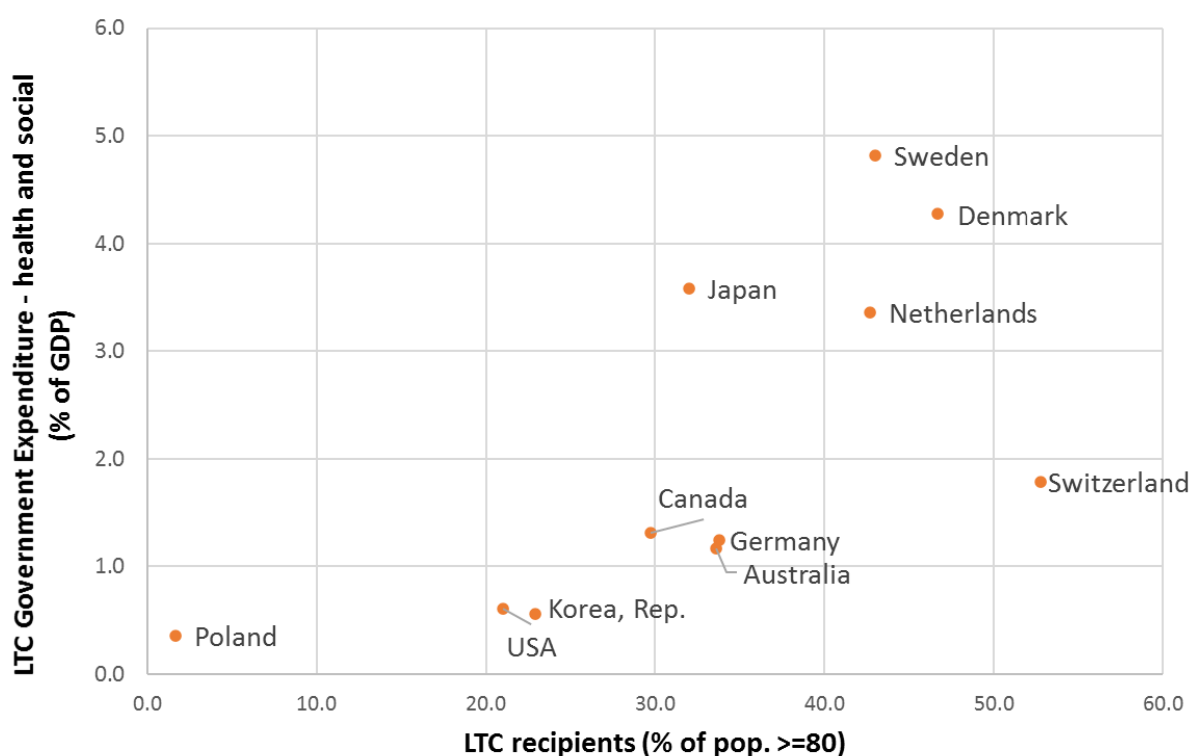
Figure 11. LTC government expenditure (2015, %GDP) versus age dependency ratio



Note: data are shown as the proportion of dependents per 100 working-age population, 2016. Source: GDP data extracted on 15 September 2019 from OECD.Stat (expenditure) and 6 May 2019 for age dependency ratio from <https://databank.worldbank.org/data/source/world-development-indicators>. Expenditure includes health components of LTC expenditure and social expenditure on old age benefits in kind. Social expenditure as old aged benefits in kind not reported for Canada or Poland. Germany reports zero expenditure as benefits in kind.

Figure 12 shows the relationship between government expenditure on LTC and the proportion of the older population receiving LTC. While generally, countries with a high use of LTC also have high expenditure, there is some variation around the trend line. Japan spends a relatively high proportion of GDP for its number of older LTC recipients, and Switzerland spends relatively less considering the size of its LTC population. Switzerland's lower expenditure may have been achieved by providing a high proportion of formal LTC for recipients at home (see Figure 7) and significant private financing (discussed in Chapter 4, page 28). Similar patterns are also observed when considering expenditure against LTC recipients of all ages or for the population over 65 years (see Appendix 3, Figure 27 and Figure 28), with Switzerland spending comparatively less and Japan comparably more than other nations.

Figure 12. Government expenditure on LTC against LTC recipients (80 years and over)



Source: Data extracted on 15 Sept 2019 from [https://stats.oecd.org/index.aspx?DataSetCode=HEALTH\\_STAT](https://stats.oecd.org/index.aspx?DataSetCode=HEALTH_STAT). Expenditure includes health components of LTC expenditure and social expenditure on old age benefits in kind. Social expenditure as old aged benefits in kind not reported for Canada or Poland. Germany reports zero expenditure as benefits in kind.

## LTC workforce

As with some of the earlier data, there is some uncertainty about the degree of comparability of the LTC workforce data between countries. Australian data collection uses a different methodology to other countries and estimates and may not capture agency and other indirectly employed staff. Non-nurse care workers in many countries (including Australia) are not registered so the accounting for them is likely to be variable.

### *Institutional care*

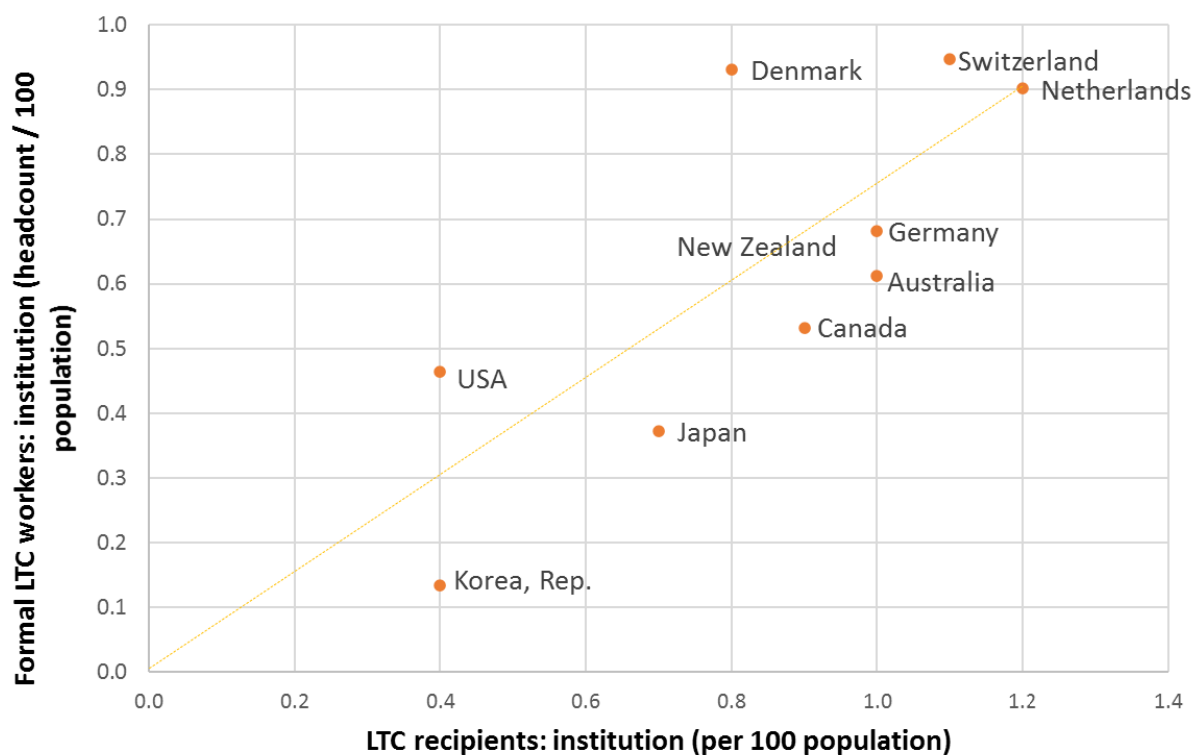
Figure 13 and Figure 14 show a fairly direct relationship between the number of LTC workers and care recipients in institutions across most countries. **Australia, along with Japan, Korea and Germany, appears to have numbers of total workers at the lower end of the range when compared with other countries.** Nations that appear to have higher levels of staffing per care recipient in institutional care include the USA, Denmark and to a lesser extent New Zealand and Switzerland. These observations on headcounts of LTC workers were generally reflected in the data available for FTE staffing in institutions (see Appendix 3, Figure 29); however it



becomes more apparent that Australia may have lower levels of staffing per care recipient than other nations when FTE data are considered.

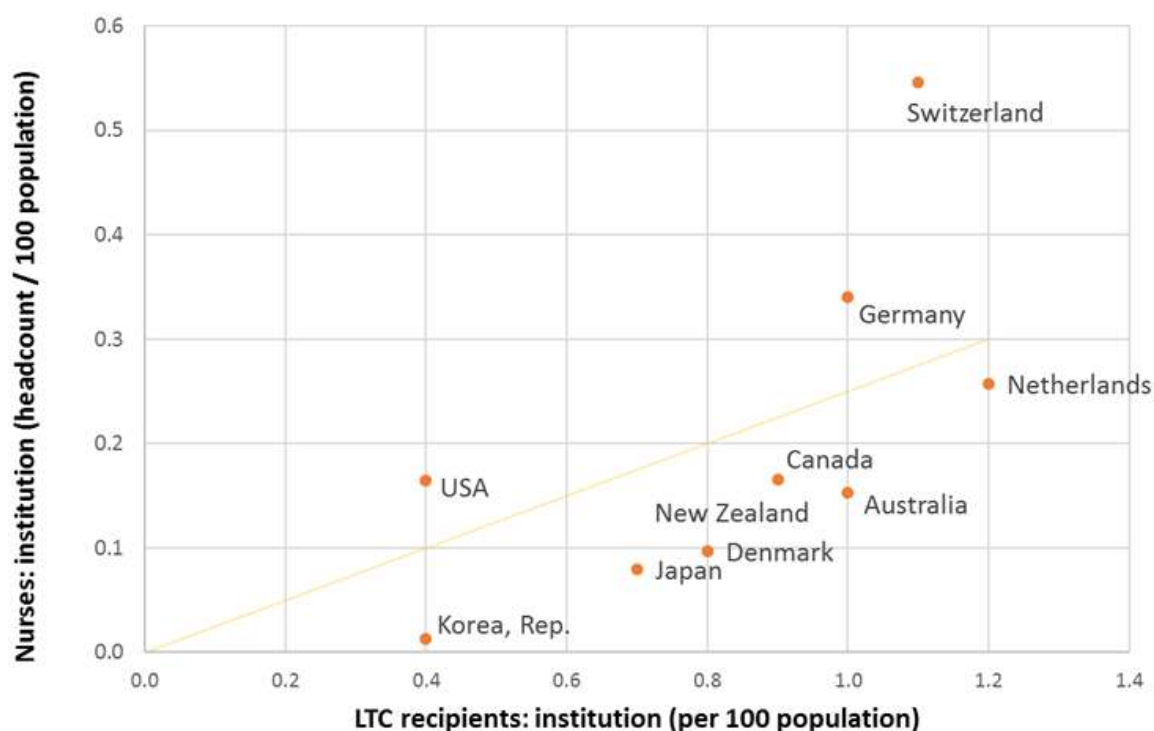
The number of nurses in institutions relative to the number of recipients in Australia also appears at the lower end of the range compared to other nations (Figure 14). The USA, Germany and Switzerland appear to employ a greater number of nurses in institutional settings (Figure 14). In Germany and Switzerland in particular, nurses are likely to make up a greater proportion of the total workforce. Canada has slightly more nurses per head of population for fewer care recipients, i.e. also a higher relative level of staffing than Australia.

**Figure 13. Number of formal LTC workers with respect to total population, institutional settings**



Source: LTC recipient data extracted on 6 May 2019 from [https://stats.oecd.org/index.aspx?DataSetCode=HEALTH\\_STAT](https://stats.oecd.org/index.aspx?DataSetCode=HEALTH_STAT). Formal LTC worker values calculated based on data extracted on 6 May 2019 from [https://stats.oecd.org/index.aspx?DataSetCode=HEALTH\\_STAT](https://stats.oecd.org/index.aspx?DataSetCode=HEALTH_STAT) and <https://databank.worldbank.org/data/source/world-development-indicators>

Figure 14. Number of nurses working in LTC with respect to number of recipients of LTC, institutional settings



Source: LTC recipient data extracted on 6 May 2019 from [https://stats.oecd.org/index.aspx?DataSetCode=HEALTH\\_STAT](https://stats.oecd.org/index.aspx?DataSetCode=HEALTH_STAT). Nurses working in institutional care values calculated based on data extracted on 6 May 2019 from [https://stats.oecd.org/index.aspx?DataSetCode=HEALTH\\_STAT](https://stats.oecd.org/index.aspx?DataSetCode=HEALTH_STAT) and <https://databank.worldbank.org/data/source/world-development-indicators>.

### Home care

As described under “Care recipients” (Chapter 3), data on home care recipients generally exclude people who only need assistance with instrumental activities of daily living such as shopping and cleaning, although adherence to this definition between nations is variable.

The number of total LTC workers in Australia providing home care appears similar to most other nations at the national level (Figure 15). These data on headcounts are generally reflected in the data available on FTE workers (Appendix 3, Figure 29 and Figure 30). Germany, Canada and Switzerland appear to provide a lower number of total workers per recipient in home care. The data for Switzerland and Canada may be understated due to the inclusion of some recipients of informal care. Switzerland also includes recipients of support for IADLs alone in addition to ADLs.

The number of nurses providing home care in Australia appears low, along with Korea, New Zealand and Canada, in comparison to many other nations (Figure 16), though Canada may be understated due to the inclusion of some recipients of informal care at home and New Zealand may be understated by the inclusion of recipients of IADL services. Germany and Switzerland appear to have high levels of nurse staffing in home care despite having low

numbers of total workers compared with other nations. Denmark also has a relatively high level of total workforce and nurses in home care settings.

The number of nurses in relation to recipients is lower in Australia than in the USA. The USA and Australia appear to have comparable data as both exclude recipients of IADL services from the home care recipient data.

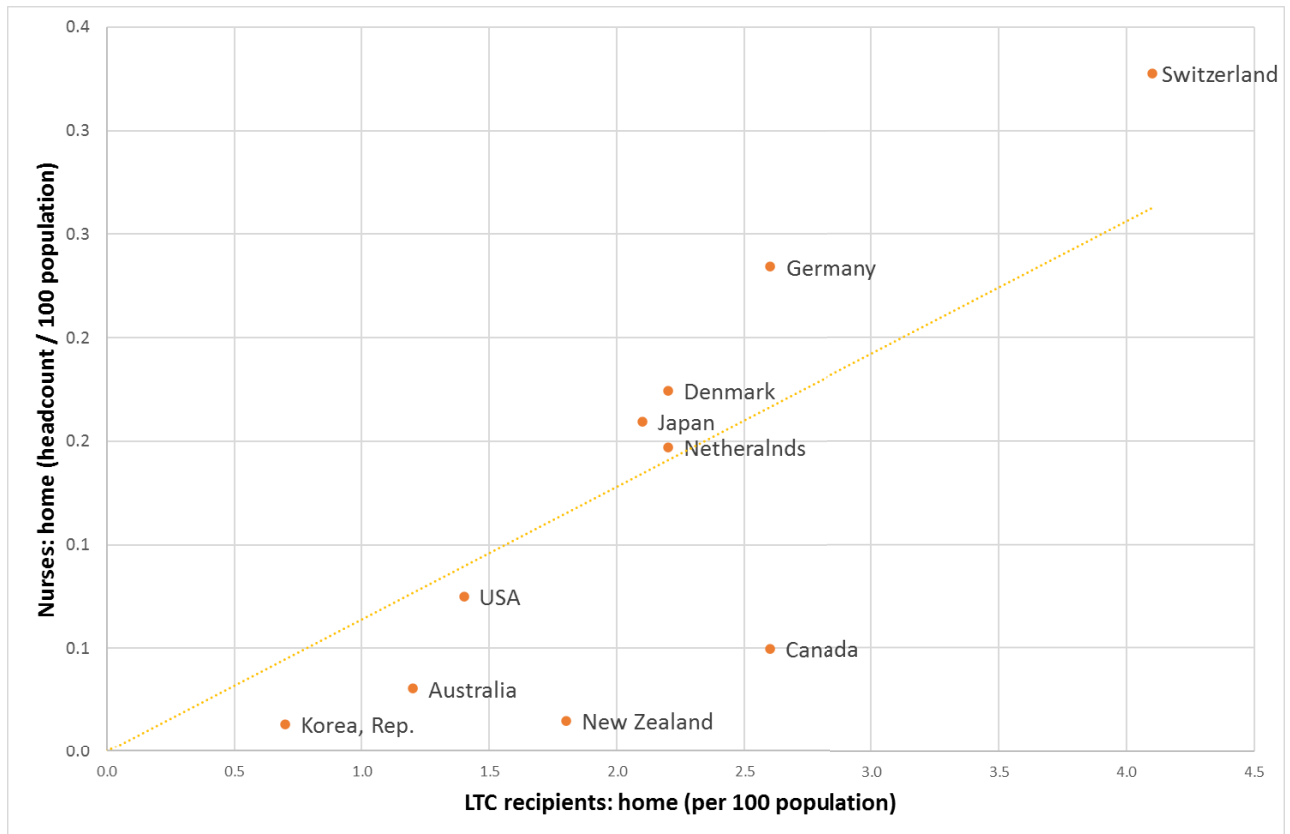
Japan provides the greatest total number of care workers in home care, but a moderate number of nurses (Figure 15 and Figure 16). Care workers are registered in Japan so the count of the number of care workers may be more complete. Data from Japan may include some double counting of recipients.

**Figure 15. Number of formal LTC workers with respect to number of recipients of LTC, home care settings**



Source: LTC recipient data extracted on 6 May 2019 from [https://stats.oecd.org/index.aspx?DataSetCode=HEALTH\\_STAT](https://stats.oecd.org/index.aspx?DataSetCode=HEALTH_STAT). Formal LTC worker values calculated based on data extracted on 6 May 2019 from [https://stats.oecd.org/index.aspx?DataSetCode=HEALTH\\_STAT](https://stats.oecd.org/index.aspx?DataSetCode=HEALTH_STAT) and <https://databank.worldbank.org/data/source/world-development-indicators>.

**Figure 16. Number of nurses working in LTC with respect to number of recipients of LTC, home care settings**



Source: LTC recipient data extracted on 6 May 2019 from [https://stats.oecd.org/index.aspx?DataSetCode=HEALTH\\_STAT](https://stats.oecd.org/index.aspx?DataSetCode=HEALTH_STAT). Nurses working in home care values calculated based on data extracted on 6 May 2019 from [https://stats.oecd.org/index.aspx?DataSetCode=HEALTH\\_STAT](https://stats.oecd.org/index.aspx?DataSetCode=HEALTH_STAT) and <https://databank.worldbank.org/data/source/world-development-indicators>.

### *Interpretation of LTC workforce data*

Across the whole LTC sector, Australia employs a roughly comparable number of workers to many of the other nations examined, particularly when taking into account the proportion of GDP spent on LTC. However, when examining the data in more detail by setting and level of qualifications of staffing, other observations can be made.

Although comparability of data is uncertain, Australia appears to provide lower levels of staffing overall in residential care in comparison to the USA, Denmark, New Zealand, Switzerland and Germany. Australia also appears to provide lower levels of nurses in relation to care recipients in residential settings than the USA, Canada, Germany and Switzerland.

Thus, the USA appears to provide higher levels of total staffing and nurses in relation to the number of care recipients in institutional settings. The USA mandates nurse-to-resident ratios and requirements vary by state, with many states having higher standards. Nevertheless, it has been argued that staffing standards in the USA are still inadequate for quality care [180].

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The number of nurses providing home care in Australia appears low in comparison to many other nations. Australia appears to employ a lower number of nurses for the number of care recipients than the USA in home care settings. Nations with higher levels of staffing in home care settings include Japan and Denmark. Germany and Switzerland provide a high proportion of their home care workforce as nurses.

There is some uncertainty about the comparability of national data for the LTC workforce. Australian data obtained from the OECD statistics database are derived using a different methodology to other countries and estimates and may not capture agency and other indirectly employed staff.<sup>iv</sup>

### Quality of care indicators

Overprescribing of antipsychotics in aged care, particularly for residents with dementia in residential aged care, has been widely reported and prescribing rates may be a useful indicator of quality of aged care [181-186]. These drugs are associated with a significant risk of harm and, when prescribed to people living with dementia, they should be confined to use for severe changed behaviours that cause significant distress [184, 187, 188].

Antipsychotic drugs are generally considered potentially inappropriate medications when prescribed to older people [188]. At a population level, antipsychotics are prescribed appropriately for some conditions in older people, including schizophrenia and bipolar disorder and severe behavioural symptoms of dementia that endanger the person with dementia or others. However in Australia the prevalence of psychotic illness in people aged over 65 is 3 per 1000 [189], whereas the rate of antipsychotic prescribing at a population level is in the order of tenfold greater (see Appendix 4, Table 7).

The proportion of the population over 65 years of age with a prescription of antipsychotics is summarised in Figure 17. Whilst these prescriptions cannot be assumed to be all related to the management of dementia, nor specifically for those receiving LTC, in general the prescription rate in older people in Australia does not appear dissimilar to levels reported in other nations.

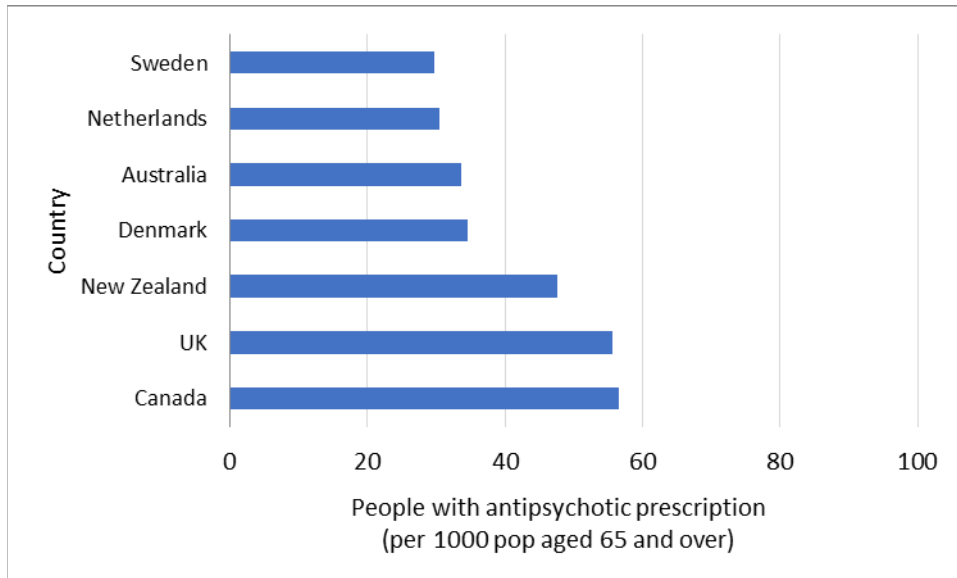
Large variation in the reporting methods hamper attempts to undertake comparisons of antipsychotic rates between countries, including the setting of the population (e.g. LTC vs institutional), population characteristics (e.g. with or without dementia, age), time period (ranging from one to a few days to 3 months) and type of antipsychotics (i.e. any, atypical, conventional). Ideally values should also be adjusted for case mix differences across countries, as undertaken in reported rates of antipsychotic use in institutions in the SHELTER study [190]. Noting these caveats, the rates of prescribing of antipsychotics in residential care in an aged

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<sup>iv</sup> The national data available reflect head counts of those employed directly by service providers receiving government funding, and do not indicate either on-shift ratios or the levels of staffing operationalised by individual providers.

population appear to be approximately 20–25% across a range of countries including Australia, the USA and Sweden (see Appendix 4, Table 7).

**Figure 17. Number of people per 1000, aged 65 years or over with at least one prescription for antipsychotics, 2015 (or nearest year)**



Source: OECD, *Health at a Glance 2017* [50]

Data were also collected on falls and pressure ulcers for a number of countries (see Appendix 4, Table 8 and Table 9). Again, these were reported as a range of different measures and in different populations so the usefulness of these measures to enable cross-country comparisons was limited. In general data available on falls did not always clearly differentiate whether they represented the rate of falls (number of falls per unit time in care) or risk of falling (number of people falling). In some cases, the data were simply described as number of falls but reported as a percentage, making it unclear what outcome measure was used. Standard organisational reporting systems may not always provide data linked to individuals to allow determination of the percentage of people falling.

Data available on pressure ulcers again varied in terms of data collection and reporting methodology. Some countries provided data on pressure ulcer risk (New Zealand) whereas others estimated the prevalence of pressure ulcers of different severities (i.e. Canada vs the USA). The time period over which the pressure ulcer prevalence was measured also varied from a point prevalence (Sweden) to a rolling four-quarter average (Canada). In the SHELTER study, the lowest reported prevalence at study baseline was for Finland at 4.8% and the highest for the Czech Republic at 15.8% [53]. The prevalence for England, Germany and the Netherlands were similar at approximately 10% (Appendix 4, Table 9).

Arguably the most comprehensive and relevant indicator is resident-reported quality of life, with other indicators being measures of safety. Whilst some population-level measures for quality of life (as population norms) in an older population at a national level were identified

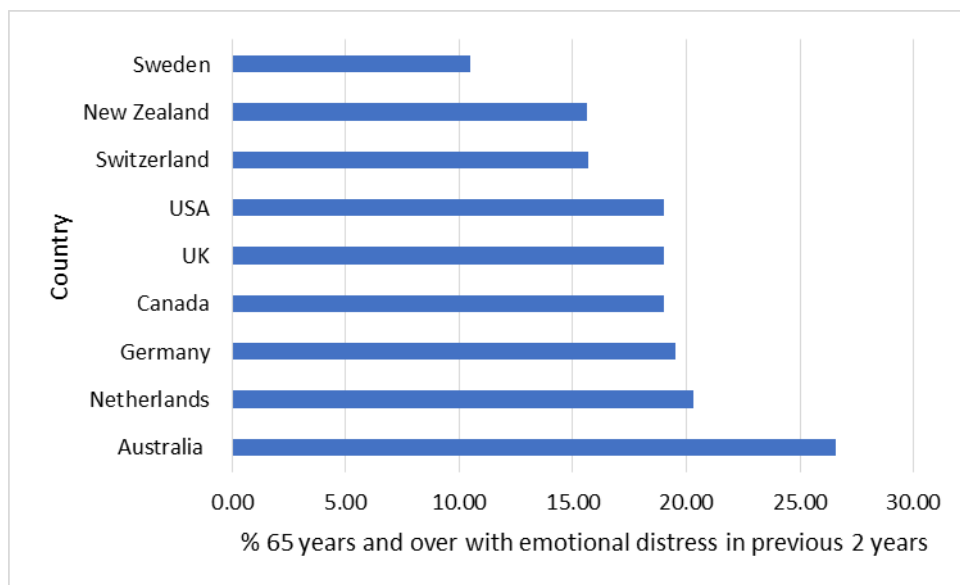
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for a number of countries including the UK, USA, Denmark and the Netherlands [191-194], equivalent measures were not identified for Australia so these measures are only presented in summary form in Appendix 4 (Table 10) as they do not provide an informative comparison.

Emotional distress may reflect components of quality of life. The proportion of older adults with emotional distress in the previous two years is shown in Figure 18; these data are from a Canadian Commonwealth telephone survey of 22,913 people aged 65 and over from 11 countries, including 2,500 from Australia [195]. The proportion of older Australians experiencing emotional distress was higher than that reported for other nations in the survey, including in those with high needs; however, the cause of this cannot be determined. Forty per cent of the subgroup of respondents who were classified as high need (having three or more chronic conditions and/or functional limitations) reported experiencing emotional distress, in comparison to a range of 15% from Sweden to 37% from the Netherlands. This subgroup is likely to represent the population within, or in need of, LTC support.

Within the same survey, 29% of older Australians reported needing help with ADLs due to their health (the highest percentage among the nations), with other countries ranging from the UK at 20% to Germany at 10% [196]. Australia also had the second highest percentage (39%) of respondents classified as having high needs; other countries ranged from Norway, New Zealand and Switzerland at 24% to 43% in the USA. **Australian respondents also had the highest percentage of those with high needs (a population likely to be receiving or in need of LTC) reporting dissatisfaction with the quality of health care in the previous 12 months (41% in comparison to the range of 21% from Switzerland to 38% from Canada). Australia was the second highest (13%) for the percentage of older people who experienced cost-related problems of access to health care in the previous year (other countries ranged from 3% in Sweden to 23% in the USA). For those with high needs, Australia was also second behind the USA for economic difficulty accessing health care. Nineteen per cent of Australians experienced cost barriers to receiving health care (range from 2% for Sweden to 31% for the USA) and 26% of Australians experienced economic vulnerability (range from 6% in Sweden to 32% in the USA).** Many of these factors may contribute to the high levels of emotional distress reported in the Australian participants. **Australia was in the mid-range for the proportion of older adults who lived alone and felt socially isolated (Australia 10%, with the range being Germany at 4% to France at 15%).**

**Figure 18. Emotional distress in those 65 years and over**



Source: Commonwealth Fund International Health Policy Survey of Seniors 2017 [195]



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## 6. Typology results

This chapter presents the results of applying the typology defined in Chapter 3 to the selected countries. The purpose of the typology is to distil key features of the national LTC systems for older people, making the similarities and differences between these systems easier to understand.

### Financing and organisation

The typology scores reflect “consumer friendliness”, with a score of 1 reflecting a system that is least preferred by care recipients and a score of 3 reflecting a score that is most preferable [1].

- means-tested access: whether the level of access to publicly funded LTC services is means-tested
  - 3: no means-testing
  - 2: means tested access in home-based care only
  - 1: means-tested access to both institutional and home care
  
- entitlement: whether or not all people assessed as eligible have an entitlement to services, or whether services may not be provided despite eligibility, for example due to budget constraints
  - 3: entitlement in both institutional and home care
  - 2: entitlement in either institutional or home care
  - 1: no entitlement
  
- cash benefits: whether or not cash benefits to care recipients or carers are available to purchase services, reflecting freedom of choice for care recipients
  - 3: cash benefits in both institutional and home care
  - 2: cash benefits in either institutional or home care
  - 1: no cash benefits
  
- choice of provider:
  - 3: free choice in both institutional and home care
  - 2: no provider choice in institutional care, free choice in home care
  - 1: no provider choice in institutional or home care
  
- quality assurance: whether or not there is mandatory quality assurance in both home care and institutional care
  - 3: mandatory quality assurance in both institutional and home care
  - 2: mandatory quality assurance in either institutional or home care
  - 1: no mandatory quality assurance

- 
- quality of coordination between LTC and other services (including health)
    - 3: coordination is rather good, although there may be some challenge for the individual
    - 2: rather poor coordination, which often poses challenges for care recipients
    - 1: very poor coordination which poses regular or severe challenges
  
  - cost-sharing: whether or not care recipients provide substantial financial contributions for institutional and/or home care services, in addition to informal care (e.g. an accommodation charge for institutional care recipients in Australia)
    - 3: cost sharing in institutional care only
    - 2: cost sharing in institutional and home care but not for home nursing care
    - 1: cost sharing for all of these.

The typology characteristics with scored values for organisation and financing of LTC are presented in Table 2 and as radar graphs in the figures that follow, which help to highlight the differences and similarities between countries. The upper-left of each radar contains the characteristics most relevant to system financing; the lower-left contains the characteristics about LTC quality and integration with other services; and to the right side are the characteristics pertaining to LTC access.

**Table 2. Typology for international LTC for older people financing and organisation; typology score reflects consumer friendliness: 1 = lowest, 3 = highest**

Characteristic	Australia	Canada <sup>e</sup>	Denmark	England	Germany	Japan	Korea	Netherlands	New Zealand	Poland	Singapore	Sweden	Switzerland	USA
Means-tested access	3	2	3	1	3	3	3	3	3	1	1	3	3	1
Entitlement to formal care/home care	3 <sup>a</sup>	2	3	2	3	3	3	3	3	3	3	3	1	3
Availability of cash benefits	1	2	1 <sup>b</sup>	2	2	1	2 <sup>c</sup>	2	1	2	3	1 <sup>d</sup>	3	2
Recipients choose provider	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Quality assurance	3	3	3	3	3	3	3	3	3	2	2	3	3	3
Quality of coordination between LTC and other services	2	2	3	2	2	3	2	2	3	2	2	3	3	2
Formal care recipients have cost sharing	2	2	3	2	3	2	1	1	1	1	1	1	1	1
<b>Total Score</b>	<b>17</b>	<b>16</b>	<b>19</b>	<b>15</b>	<b>19</b>	<b>18</b>	<b>17</b>	<b>17</b>	<b>17</b>	<b>14</b>	<b>15</b>	<b>17</b>	<b>17</b>	<b>15</b>

<sup>a</sup> For home care packages, although all are entitled, recipients may be placed on wait lists and do not necessarily receive packages in a timely manner.

<sup>b</sup> Family members can be approved and employed by the local municipality as a home care worker.

<sup>c</sup> Cash benefits available but infrequently provided.

<sup>d</sup> Some availability of cash benefits but plays a minimal role. In some municipalities family members can be approved and employed by the local municipality as a home care worker.

<sup>e</sup> There is large variation between provinces; information predominantly based on Ontario.

The typology scores are presented graphically in Figure 19 to Figure 22, to visualise countries with similar approaches to LTC.

Figure 19 shows there is a trio of countries (Poland, Singapore and USA) with the lowest levels of access and highest reliance on consumer spending. All countries in Figure 19 require means testing to access publicly funded LTC services and require cost sharing in both home and residential care. This indicates that they have a higher level of consumer spending than the remaining countries, as a larger proportion of residents will need to rely on out-of-pocket costs to fund LTC services. In all countries, recipients are able to choose providers and have entitlement to care; however, this access to publicly funded services is limited to those who fall below a means-tested threshold, indicating that the remaining population who require LTC services rely on private funding. Poland, Singapore and USA do not lean towards a preference in quality and integration of LTC services. They have mid-level scores on both quality of coordination and quality assurance in comparison to the remaining countries. Poland received the lowest score of 13. Government expenditure on LTC in these countries is 0.5% of GDP (Poland 0.4% and USA 0.6%, data not available for Singapore but is likely to be similar or lower; see Chapter 4, page 26).

**Figure 19. Countries with lowest access and highest reliance on consumer spending**

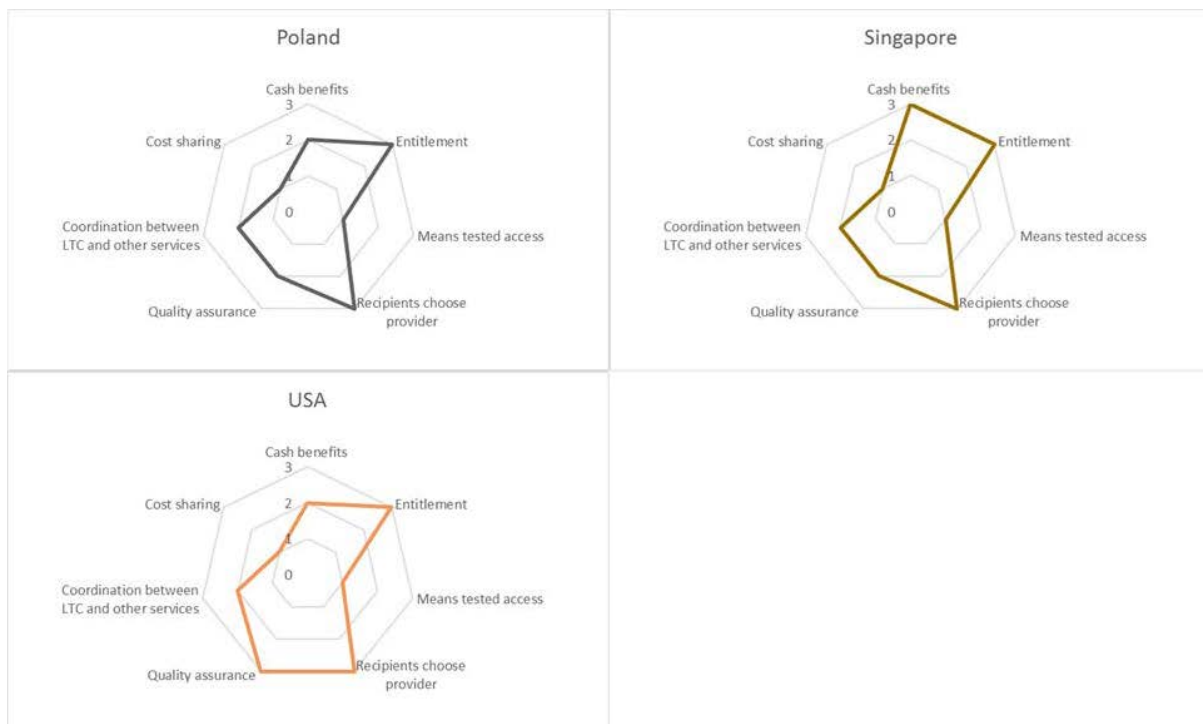


Figure 20 presents countries with the lowest level of access but only a mid-level (as opposed to high in Figure 19) reliance on consumer spending. Similarly to the countries presented in Figure 19, Canada and England have low levels of access. Both countries limit access to publicly funded care with means testing and have limits on entitlement to care based on the available budget. Unlike the countries in Figure 19, however, recipients of care in Canada and England do not have cost sharing, meaning the reliance on consumer spending is not as high

as in those countries in Figure 19. This is also reflected in Canada’s and England’s government expenditure on LTC. On average they spend 1.4% of their GDP on LTC (1.3% for Canada, 1.5% for England/United Kingdom). Canada and England have mid to high levels of quality regulation and integration, both having regulation of quality in home and residential care and mid-level coordination of LTC services with the health system.

**Figure 20. Countries with lowest access and mid-level reliance on consumer spending**



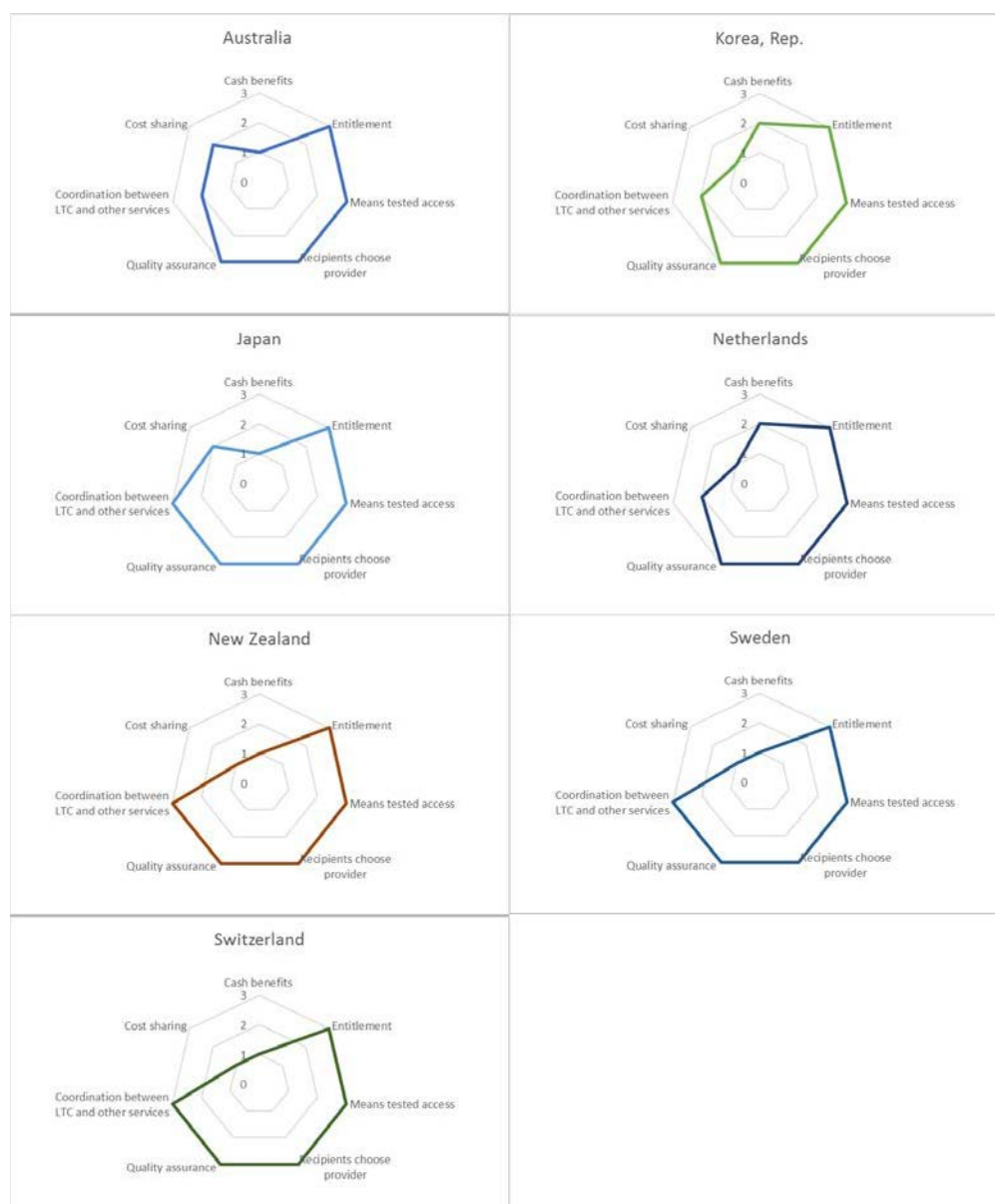
Australia is part of a group of countries, comprising half (7 of 14) of the countries assessed, presented in Figure 21. Countries in this category have the highest scores for access, but only mid- to high-level reliance on consumer spending. Australia, Korea, the Netherlands and Japan have the highest level of access to LTC services. Recipients in all countries have entitlement to care, are not means tested for access to care and can choose the type of provider.

Despite the high levels of access to care, these countries still have a reliance on consumer spending for care. Korea, Netherlands, New Zealand, Sweden and Switzerland require cost sharing from recipients in both home and residential care, meaning their reliance on consumer spending is higher than Australia and Japan. Compared to the countries in Figure 19 and Figure 20 these countries have high levels of access (as they do not apply means testing), but with a reliance on consumer spending for care. This is evident in the average government spend on LTC. On average, these countries spend 2.5% of GDP on LTC.<sup>v</sup> This is higher than the average for those countries in Figure 19 (0.5%) and Figure 20 (1.4%).

New Zealand, Sweden and Switzerland all scored the same based on their high level of quality regulation and access yet low consumer preference in terms of financing. Japan has the highest level of quality and integration, whereas Australia, Korea and the Netherlands have mid-level integration with other services including the health system

<sup>v</sup> New Zealand government expenditure on LTC was not available and is not included in the average.

**Figure 21. Countries with highest access, but with reliance on consumer spending**



Germany and Denmark score highest in this typology (19) and are grouped together in Figure 22. Their systems provide consumers with the highest levels of access and the lowest cost sharing, and there is a high level of quality regulation and integration with other services including health. On average, these two countries have the highest government expenditure on LTC of 2.8% of GDP. This is largely skewed towards Denmark’s high spend of 4.3% of GDP, with Germany’s LTC spend of 1.2% considered to be a likely underestimate due to their reliance on cash benefits, as discussed in “Expenditure” in Chapter 3.<sup>vi</sup> Again, caution should be taken when comparing average expenditure on LTC as some countries in the typology were not included due to lack of data

<sup>vi</sup> In Germany social care for the aged includes cash benefits, which are not captured in the expenditure estimate.

Figure 22. Highest-performing countries



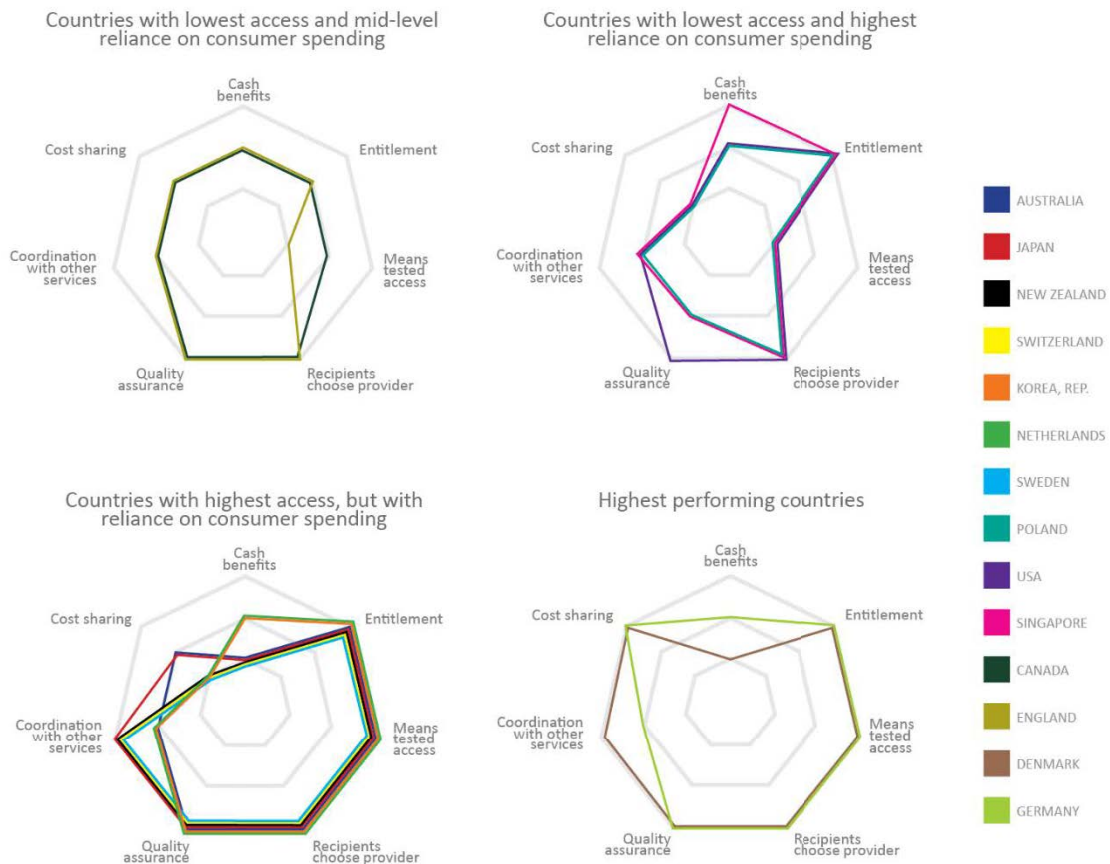
Provision of cash benefits to carers in home or institutional care or both (Singapore alone) was not associated with any specific cluster.

**Australia belongs in a group of countries which deliver highly regulated aged care with good access, but at the expense of flexible financing arrangements. However, it is worth noting that none of the countries examined scored consistently well on flexible financing arrangements. Australia scores less well on the quality of integration and coordination of care than many other countries who provide high levels of access to LTC services. Specifically, Australia scored only two for quality of coordination of LTC with other services including health. Many other nations, including New Zealand, Switzerland, Sweden and Japan, who were within the same cluster of nations considered to be providing high access to LTC scored three for coordination.**

The countries are scored based on subjective interpretations of the literature and government resources in addition to a scoring system based upon assumptions of the preferences of consumers. The differences in information available for each country and the subjective nature of the scoring should be considered when interpreting the typology scores and radar graphs.

Figure 23 summarises the data in each of the typology categories presented in Figure 19 to Figure 22.

**Figure 23. Categorisation of LTC systems of 14 countries according to financing, regulation and access**



## Regulation for quality assurance

Countries' regulation of quality is categorised using the approach of Mor et al. [2] (Table 3). In general, the regulatory approach to quality assurance of aged care systems in different countries may be based on inspection, data measurement and public reporting, or professionalism. We have also categorised the predominant approach to regulation for quality as centralised or decentralised, and whether there are single or multiple levels of responsibility for regulation.

The predominant country approaches to regulating quality (set out in detail in Table 3) are considered to be:

- inspection-based for Australia, Denmark, the Netherlands, Singapore and England, where the responsibility remains primarily with government
- data measurement and public reporting based for Canada, New Zealand, Sweden, the USA and the Republic of Korea
- professionalism-based for Japan, Germany and Switzerland, which have specified educational levels and training for their workforce.



There are no obvious associations between the regulatory approaches and the financing and organisation typologies presented earlier.

**Australia predominantly has a single, central level of responsibility for regulating the quality of LTC for older people, which is in contrast to most nations reviewed.** Inspection-based approaches like that found in Australia tend to be associated with a centralist administrative approach [17]; however countries such as the Netherlands and Denmark are examples of inspection-based approaches existing in decentralised systems. **This is in particular contrast to countries (such as Germany, Japan and Switzerland) that have professionalism-based quality regulation systems, multiple levels of responsibility and are decentralised [2, 17].**

Countries with data and public-reporting based regulatory systems (e.g. USA, Canada, Sweden) all operate with multiple levels of responsibility and are decentralised, with the exception of New Zealand, which has centralised regulation with implementation at the local level. Countries with professionalism-based approaches all have LTC funded through universal LTC insurance [2].

**Table 3. Regulation of quality in international aged care systems**

Characteristic	Regulatory approach	Predominant responsibility	Levels of responsibility
<b>Australia</b>	Inspection-based regulatory systems	Centralised	Single (central)
<b>Canada<sup>a</sup></b>	Data measurement/public reporting regulatory system	Decentralised	Multiple
<b>Denmark</b>	Inspection-based regulatory system	Decentralised	Single (local)
<b>England</b>	Inspection-based regulatory systems	Centralised	Multiple
<b>Germany</b>	Professionalism-based regulatory systems	Decentralised	Multiple
<b>Japan</b>	Professionalism-based regulatory systems	Decentralised	Multiple
<b>Republic of Korea</b>	Data measurement and public reporting	Decentralised (registration), & centralised (inspection)	Multiple
<b>Netherlands</b>	Inspection-based regulatory systems	Decentralised	Multiple
<b>New Zealand</b>	Data measurement and public reporting based regulatory systems	Centralised	Multiple
<b>Poland</b>	Unclear	Decentralised	Unclear
<b>Singapore</b>	Inspection-based regulatory systems	Central	Multiple
<b>Sweden</b>	Data measurement/public reporting regulatory system	Decentralised	Multiple
<b>Switzerland</b>	Professionalism-based regulatory systems	Decentralised	Multiple
<b>USA</b>	Data measurement and public reporting based regulatory systems	Decentralised	Multiple

<sup>a</sup> predominantly Ontario

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## 7. Alternative approaches to financing and delivery

A number of approaches to funding aged care that could be considered innovative in the Australian context exist in other countries. These approaches are outlined below.

### Support for informal care

Families and informal carers provide a significant proportion of LTC in many nations and this is a major contributor to LTC in Europe [197]. In the USA, it has been estimated that the cost to substitute informal with formal home care for older people would be approximately \$17,000 per year per person [198]. Family-provided care may represent 50 to 90% of the overall cost of formal LTC in European Union countries [199]. Providing care and support is physically and emotionally demanding and carers themselves are at increased risk of poor health outcomes [200, 201]. The majority of informal care is provided by women [202]. There is therefore a strong relationship between female workforce participation and informal LTC [15]. Without increasing the recognition and value of informal caregiving, these levels of unpaid care may not continue [202].

Thus, investment in informal caregivers is important to maintain a sustainable LTC system which is capable of acting as an affordable alternative and supplement to formal care [198, 201, 203]. Informal care may be able to substitute for formal care when care needs are low [204]. Some nations (including Canada and Korea) limit the number of hours of formal home care available and thus care recipients need to rely on informal carers to provide unpaid care to be able to stay at home [79]. It has been stated that in Canada, in provinces where the health systems are more integrated, home-based care can be a cost-effective alternative to residential care [205] and that increases in publicly funded home care reduce hospital service use. At a national level, there appears to be a decrease in the number of hours of informal care provided as the proportion of older people receiving formal care services increases [203].

In some countries (for example Australia and England) the amount of care provided by informal caregivers is considered in the needs assessment for LTC services. In some other nations, such as France and Japan, the needs assessment is “carer blind” so the amount of support provided by informal carers is not considered in the assessment for eligibility for services [98].

**Australia has a relatively high number of informal carers in comparison to many other nations (see Figure 9). Most people with dementia live in the community, and informal carers are an important support to enable this to continue [206]. A means-tested, needs-based, cash benefit allowance for informal carers is available in Australia for those providing constant care (the Carer Payment) [207]. There is also a non-means-tested income supplement (the Carer Allowance [208]) of approximately \$3,000 per year for those eligible and up to 10 days paid leave is available annually [209]. However, many other nations provide additional support for informal carers in other ways, as outlined below.**

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### *Extended leave*

Extended leave, whether paid or unpaid, is available for informal family carers in many nations [32, 210]. The benefits and entitlements available are generally less than provisions for caring for children, but still greater in many other countries than in Australia. Key examples internationally are provided in Box 2.

#### **Box 2. International examples of provision of paid carer leave**

- In Austria, up to three months annually of paid leave (at 55% of their income) can be arranged to care for people with severe care needs [210].
- In Japan, paid carers leave is allowed for up to 93 days per family member [32].
- In Italy, three days per month paid leave is available for people caring for a disabled family member [210].
- In Belgium, paid leave can be taken for anyone in need of help including a friend or neighbour and this can be for one year up to five years, through government compensation [32].
- In Poland, paid leave for up to 60 days per year is nationally approved, paid at 80% of the salary [32].
- In Germany and Ireland, up to two years paid leave is available [203]. In Germany, people may also reduce their working hours to 15 hours per week for up to two years, with employers having the option of obtaining interest-free credit to increase salaries. The carer must pay back the credit by working full-time after their return to work [210].

In Germany, caregivers can also take 6 months unpaid leave for care without endangering their job (with small employers exempt), with legislation protecting them from dismissal before and after care leave [210]. An interest-free loan is available for support during this time [211]. In Spain, long-term leave can be taken for up to three years, with differences in approval between public and private employers [203, 210]. In France, up to three months leave can be taken and renewed once to care for a family member with a disability with at least 80% pay. In the USA, private companies with more than 50 employees grant up to 12 weeks unpaid leave annually [32]. In Hungary, people are entitled to take up to two years unpaid leave [210].

### *Financial support: Cash for care and personal budgets*

Financial support for caregivers is generally provided in one of three ways [79]:

- “carer-blind”, which pays the same benefits to formal or informal carers (e.g. Israel, Czech Republic)
- hourly wages (e.g. Nova Scotia, Canada, the Netherlands)
- cash benefits paid to either care recipients (e.g. England) or carer providers (e.g. Nova Scotia, Canada), i.e. “cash-for-care”.

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There are wide variations between countries in the value of benefits available and whether or not they are means tested [212]. In most countries, the provision of benefits is based on a needs assessment [212]. In 2011, 14 of 21 European countries examined in a report by the European Network of Economic Policy Research Institutes provided some type of cash benefit [212]. In general, care recipients can choose whether to receive their LTC benefit as cash or in-kind, but in France and Austria only a cash benefit is available [8]. Cash benefits allow care recipients to employ and hire staff directly, including compensating family members for care. Cash benefit schemes may be referred to by a variety of terms including direct payments or personal budgets and may be provided as vouchers [213].

**Box 3. International examples of the provision of financial support for carers**

- Germany, Italy and Austria all provide a large portion of their LTC for older people as cash rather than services [203].
- The German LTC system provides a means-tested carers allowance. Informal caregiving leads to contributions to the carers statutory pension insurance from the LTC insurance scheme [214].
- In several countries, including Denmark and Sweden, family members can be approved as home care workers and thus receive payments for providing care [22, 88, 215]. This is generally implemented at a local (decentralised) level.
- In some countries, cash benefits are specifically for family carers rather than other services; these are provided in Spain when there are no formal services close by and in Korea when the use of formal LTC is not possible [8].
- In Nova Scotia, Canada, the wages paid to family carers plus the Caregiver Benefit can be equivalent to the median wage [79].
- In the UK, a means-tested carer's allowance is available for those spending at least 35 hours per week in care roles, at a set rate, for care recipients with a high level of dependency [8].

In the Netherlands, in the context of LTC insurance, personal care budgets were introduced to encourage the use of informal care [113]. In 2005, approximately two thirds of LTC budget holders used the budget to pay for informal care. However, the provision of personal care budgets also resulted in the substitution of unpaid informal care for paid informal care and an increase in the number of brokers assisting in obtaining personal care budgets. Personal care budgets were also used by home care providers to evade budget constraints. Therefore it is uncertain whether introducing personal care budgets resulted in an overall increase in the provision of informal care [113].

In Germany, despite cash benefits being 50% lower than the value of services provided directly in-kind, it has been stated that the cash incentives seem to have created incentives to increase the number of informal caregivers per care recipient [8].

In Spain, an analysis of the introduction of a caregiving allowance and increased publicly funded home care support found a reduction in hospital admissions and utilisation for those

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receiving the allowance, and the effect was reduced when the subsidy was decreased [216]. The introduction of the allowance led to a 30% increase in informal caregiving [217]. There were also increases in cash transfers to later generations (and decreases in transfers to older generations) in lower- and middle-income households.

A USA randomised trial of the option for cash and counselling in comparison to standard Medicaid services in 1998 to 2001 found that the cash and counselling group were more likely to receive the authorised amount of care [218]. Thus, Medicaid costs were higher than in the cash and counselling group, with higher personal care/waiver services costs partially offset by savings in other Medicaid services, particularly LTC services. Analysis of the data from this trial found that paid family involvement in care decreased emergency department and inpatient expenditure, decreasing Medicaid spending [219]. There were also improved care recipient outcomes such as reduced urinary tract and respiratory infections and pressure ulcers with family involvement in care.

Cash benefit schemes can have an impact on the formal labour market, depending on how the cash benefit is regulated [8]. It can lead to direct employment of formal LTC workers, increase the number of unqualified care workers in the sector, increase competition between the formal LTC workforce and the black labour market (reported in Germany) and lead to higher demand for low-wage labour. There have also been concerns raised about quality control in cash benefit systems [8, 220]. Cash benefits may limit the ability of governments to regulate quality. Employing family members may change family relationships, with the employed family member feeling obliged to work more hours leading to increased stress [8]. Cash subsidies may also increase the number of men leaving the formal workforce [217, 221].

A common argument for providing cash benefits is increasing consumer choice, thus empowering the care recipient [213]. However, the concept of care recipients as empowered consumers has been questioned [11]. The capacity of care recipients to choose may be limited by their health and cognitive status. Choices about care are often made in times of crisis, so availability may be a greater driver of service uptake than true freedom of choice. Such choices are often also made by substitute decision makers such as family members (who may themselves be frail older people), or care professionals, rather than the care recipients themselves, and the option of changing providers or services later may not be realistic. Increased choice can also be accompanied by increased legal responsibilities and administrative tasks that may be considered burdensome by some older people and their caregivers [222]. Overall, there is little evidence that choice over all components of home care improves the quality of care received, and many factors beyond the provision of direct funding influence the degree of choice that care recipients have.

### *Training for informal carers*

General carer education and support programs are available in Australia for people providing informal care for members of the older population and for people living with dementia. Such

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supports can be accessed via the COTA Carer Gateway, Carers Australia, the National Dementia Helpline, Dementia Australia fact sheets and resources, and Dementia Australia education groups. However, other approaches to supporting carer training exist internationally.

Some nations provide information centres that provide social support, information on services and health information [8, 113]. System navigators or support workers can also provide significant support for carers. Many approaches to providing such services are outlined in the report *Review of Innovative Models of Aged Care* [223].

In some Asian nations, including Indonesia and Korea, there is a heavy reliance on local volunteers to provide support for older people [224]. Most informal caregivers lack education and skills [225]. In Vietnam, the government is working to address this with the expansion of the Elderly Home Care Volunteers program from four to twelve provinces supported by HelpAge International and Atlantic Philanthropies, plus additional funding from the United Nations Populations Fund. In this program 3–4 volunteers work through Intergenerational Self-Help Clubs to provide several activities including home care.

Elsewhere, in Mexico City, the local government provides a program that trains health professionals to supervise and support informal caregivers of older people [143]. In Germany, LTC insurance organisations are required to offer free training courses for informal carers [95].

**Box 4. Case study of Korean carer training program for community volunteers**

HelpAge International is a global network of over 130 member organisations [226], and is responsible for developing the Republic of Korea (ROK) home care model, a volunteer-based approach which was considered successful in Korea and subsequently adapted for implementation across all ten ASEAN countries [227, 228]. Running from 2003 to 2012, the ROK-ASEAN project involved multiple stakeholders engaging with governments of ASEAN countries, and building capacity for partner NGOs to adapt home care according to the needs and context of each country [227, 228]. At the local village level, the partner NGO provided training to community volunteers in topics including general concepts of home care, common illnesses in old age, support in ADLs and IADLs, and basic health care. Some volunteers were trained in counselling, community mobilisation and networking, first aid, and household sanitation [227]. The participation of local volunteers was the key to the success of the ROK-ASEAN model, with each volunteer visiting 1–3 older people at home, anywhere from every day to once per week [228]. During the life of the project, 3,697 volunteers provided basic home care to 5,080 older people [228]. Follow-up evaluation conducted by external reviewers found that all participating ASEAN countries reported the project to be more than satisfactory, with participating older people also reporting increased self-esteem and ability to age in place [228]. Government organisations reported that the project was cost-effective, with most countries subsequently developing their own specific approaches to home care based on the ROK-ASEAN model [228].

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### **Respite services**

Respite care is available in Australia, but only approximately one third of people approved for respite care use this service within 12 months [229]. A recent analysis has shown that respite use by older Australians is associated with fewer days in residential aged care [229]. Many people use respite as a trial period for residential care immediately prior to permanent admission [230]. Novel models of respite are outlined in the accompanying *Review of Innovative Models of Aged Care* [223]. For example, in Sweden, respite is offered free by the local government. Options available include in-home respite and short stays at hotels for the carer while the care recipient is in respite [8]. In the Netherlands, the needs assessment agencies can refer caregivers to support centres that provide various kinds of respite [113].

### **Family-based funding**

In some countries, the family unit is considered in the assessment for funding for LTC. In contrast, in Australia the family beyond the spouse is not considered within financing of LTC for older people. In many nations with less developed LTC systems, LTC is only available to those who are impoverished and without family (see Nations with minimally developed LTC systems”, Chapter 4, page 30).

In Germany, childless adults pay an extra 0.25% insurance contribution to reflect lower access to informal support [98]. A limitation of this approach is that this is likely to increase inequity for LGBTI populations, a population less likely to have traditional supports and more likely to rely on peers [231].

In France, in the context of mandatory LTC insurance, the families of LTC recipients are means tested and required to contribute to the costs of LTC. Means testing does not include the value of someone’s home as long as a close family member is living there [98]. There are also tax incentives for families paying for the cost of care, allowing deductions of 50% of the cost of personal and domestic staff from tax contributions and up to 25% of residential care costs [98].

In Singapore, coverage is provided through MediShield health insurance, MediSave compulsory personal health savings (opt-out) and ElderShield (opt-out LTC insurance) which are shared between family members. A portion of the balances can be transferred between MediShield and ElderShield. Means testing is based on the household family income, or on potential income from renting out the residence [123]. Older people who cannot provide for themselves can legally claim for maintenance from their children [121].

### **Foster care**

In some countries, families are supported to provide care in their home for older people who need care but have no families of their own. In Russia, families receive a monthly fee and contracts are entered into between the care recipient and the foster family which outline the details of the time period, type and cost of care, and meals and services to be provided by the

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family [120]. Inspections of living conditions with the foster family are conducted. In Vietnam, payments are provided to both the care recipient and volunteer caregivers who provide residential care for poor older people without family who are no longer able to live alone [147].

### **Institutional care funding**

There are also a number of different approaches to financing institutional care internationally. In Australia, the government provides funding for care (using the Aged Care Funding Instrument), but providers bear the capital cost of establishment of the facilities, so the government has little control over the design of aged care facilities, apart from through regulation of standards. The provision of aged care places is set through the aged care provision ratio based on regional demographics.

In contrast, in the context of government-managed, opt-out private LTC insurance, in Singapore the government bears the capital cost of setting up residential care facilities, which are then leased by providers [123]. Lowering the costs to providers thereby lowers the out-of-pocket costs to the care recipients. The government also funds the VWOs who provide the majority of LTC up to 50% of operating costs.

In Germany, shared-housing arrangements developed as self-organised projects, but are now included in laws enacted by states replacing the federal nursing home Act. Special grants to support the implementation of shared housing are available [21].

In Nova Scotia, Canada, the government has legislated that government-funded residential aged care facilities must provide a “household” model of care, as part of their 2006 Continuing Care Strategy [232]. The vision of the 10-year strategy was “Every Nova Scotian living well in a place they can call home”. The province has detailed legislated requirements for both design and provision of care [233, 234]. Despite this, a 2018 report indicated that “the sector is not often seen as providing attractive and supportive workplaces and homelike facilities” [235].

In Valencia, Spain, there is an approach which gives greater control to care recipients [236]. In this region approximately two thirds of residential aged care facilities are private, for-profit providers. Public funding is obtained by care recipients through a needs assessment and recipients can nominate three preferred residential care homes. If approved, the care recipient will receive an “Individual Care Program” specifying an assigned home. However, they can choose to obtain care at a different facility. The care recipient receives a cash benefit and purchases the residential care from the alternative provider. Historically, there has also been experience with monthly vouchers for residential care in the region (over the period 1997 to 2007). This is an uncommon approach where the care recipient gives the voucher to the approved private for-profit or not-for-profit provider, who presents these to the local government that provides the financing. This approach reduced waiting times for public homes and increased viability of private providers. Criticisms of the scheme include that the



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voucher was subject to annual renewal, that the voucher quantities depended on the budget, uncertainty about whether this approach genuinely increased consumer choice and the administrative burden.

### **Pay-for-performance**

Pay-for-performance (P4P) funding approaches for residential aged care facilities have been used in some states in the USA and have been incorporated into aged care systems in some Asian nations including Japan and the Republic of Korea [136]. Similar approaches are used more widely in health care, for example in hospitals [32, 136]. The aim of this approach is to financially reward high-performing LTC providers to provide an incentive to deliver higher quality care. Such approaches should include measurement of indicators that reflect the quality of care, vary between providers and can be improved [136]. The measures must allow for adjustment of these indicators for case mix and risk of the care recipients and be reported in a timely manner [136]. It is also suggested that both supply and demand must be able to respond to publicly available information on the quality of care of the providers [136]. There are a number of differences between pay-for-performance in aged care and health care including an existing high mortality rate in aged care. If such programs are effective, provision of higher quality of care could reduce the burden on the healthcare system by reducing hospital readmission rates and improving health outcomes.

In the USA in 2010, 14 states had existing or planned P4P programs for LTC through government-funded Medicaid [136]. Most states use patient satisfaction, staffing and regulatory deficiencies as measures and all use at least three other measures [136]. Other measures include Medicaid use, process measures, occupancy and efficiency. Limitations include that measures such as mean episode payments and readmission rates are sensitive to the number of observations and can vary widely [136]. The financial bonuses are relatively small, in the order of 2 to 6% of the per diem rate [237]. Also, P4P programs provide incentives for providers who are amongst the highest ranked or those close to achieving a given threshold. There may be little incentive for providers to improve or maintain their quality if they are not close to the eligibility point for additional funding [136, 237]. Whether or not these approaches have improved quality of care is uncertain [136, 237-239].

In Japan, since 2009 a bonus has been paid to residential facilities and community-based services that are successful at improving recipient functional status or returning an individual to their home. Payments are also paid for recruitment of certain types of trained staff, increased proportions of stroke patients receiving rehabilitation or for comprehensive case planning [32, 136]. A separate program rewards LTC facilities that are high performing in terms of rehabilitation or running quality prevention programs through day care services. Although the P4P schemes have resulted in greater use of assessment systems it is unclear whether there has been an impact on care quality [32].

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The Republic of Korea rewards the top 20% of providers according to their rankings based on evaluations with an additional one to two per cent in payment [107, 169]. The top providers are also listed on the government website as highly qualified providers [108].

## Workforce

As described previously (see Chapter 4, page 17), Australia does not have any specific mandated requirements regarding staffing ratios, skills mix or LTC workforce qualifications. Approaches of other nations include mandates for staff-to-resident ratios (e.g. Japan), nurse-to-resident ratios (e.g. the USA), or skills mix (e.g. Japan). In most other countries, training for the LTC workforce is publicly funded [8].

In Singapore, other approaches to encouraging and retaining workers in the aged care sector include [121]:

- life experience recognised as qualification for training
- grants and subsidies for training
- career development pathways and wage increases for professions
- government-provided training and advising of staff and volunteers for VWOs [126].

## Asset testing

Means testing by income to determine the level of public funding for LTC services exists in many OECD countries [79]. However, in a study of 14 countries by the OECD, only a minority considered people's assets in their means testing. Considering assets was more common in determining funding for institutional care; in the USA there is no access at all to public LTC for those with high assets. In England, only a small cash benefit is available to those with high assets but the threshold for "high assets" is relatively low at £23,250 (2017) [79]. In Japan and France, asset testing only applies to costs for food and accommodation in institutional care. Most of these countries do not consider assets in means testing for home care. The USA, England, the Netherlands and Belgium all include asset testing for both institutional and home care. A house occupied by the care recipient's spouse is often excluded from the assets test.

## LTC insurance

LTC insurance exists in many countries and thus is not innovative internationally but would be in the Australian context. Compulsory LTC insurance exists in Germany, Japan, the Republic of Korea and the Netherlands. Mandatory schemes such as these provide equitable access and consistency in benefits for LTC [240]. The approach also provides stability and certainty for providers as they receive a set fee [241] and enables government cost control. It has been reported that this approach can also allow the government to incentivise preferred types of care.

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A recent policy evaluation of approaches to financing LTC in China compared different approaches taken in three different regions: social health insurance in Shanghai, LTC nursing insurance in Qingdao and means-tested LTC in Nanjing [242]. The authors, from academic settings in the UK, Hong Kong and China, concluded that the social health insurance model “led to systematic bias in affordable access among participants of different insurance schemes” and was “a powerful incentive for the over-provision of unnecessary services”. The means-tested model had narrow eligibility and insufficient funding [242]. They concluded that the LTC nursing insurance model was preferable, despite limited access due to narrow eligibility criteria.

Public LTC insurance systems have a number of challenges. Contributory social insurance schemes have been reported to create generational inequity and differences by gender [243]. In the Republic of Korea, where LTC insurance was introduced in 2008, it has been reported that those in better health were more likely to access LTC services, indicating some inequity in service distribution [244]. In Japan, the sustainability of the insurance scheme has become a concern with the aging of the population increasing the financial burden on future cohorts. In recent years, there have been changes to the system for cost containment and further increases in co-payments or other approaches to increase sustainability may need to be considered [49, 245]. The projected increase in the age dependency ratio in Japan is even greater than in other nations (Figure 25) [246]. It has been reported that LTC insurance also affects the trade-off between labour supply and care provision for informal caregivers [221, 247]. In Germany, the provision of LTC benefits has increased incentives for older men, but not women, to leave the labour market. Such financing approaches may also be less compatible with innovation as they are generally fairly inflexible [220].

A more innovative approach to LTC insurance is the public–private partnership for LTC insurance that exists in Singapore. In Singapore, private insurance agencies administer the LTC insurance scheme which is provided for the population on an opt-out basis and is managed by the government (see Chapter 4, page 26). Enrolment is automatic from the age of 40 years, except for those already with ADL limitations. Premiums are age and gender related. There are a number of difficulties associated with this approach. The voluntary nature of the public–private partnership model is a challenge [8]. There are perverse incentives for hospitalisation, due to higher eligibility for subsidies through acute hospitals than through the LTC insurance. There may be an over-reliance on VWOs due to the government VWO subsidies – these primarily utilise volunteers, which may not be sustainable as the demand for LTC services increases. Finally, a heavy reliance on informal caregiving primarily by women is being challenged by changing demographics, social values and lack of support for informal caregivers [122]. In Singapore it has been reported that there is a high rate of stress and depression associated with the heavy reliance on family as the primary caregiver, which is unsustainable [121]. Similar schemes were explored in the USA, through the Community Living Assistance Services and Supports Act (CLASS Act), which was repealed in 2013 [8].

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There is strong emphasis on private LTC insurance in the USA, as the government-funded Medicaid is targeted at the poor [8]. Private LTC insurance also plays a role in some nations such as Japan and Germany for those who opt out of the public LTC insurance system or wish to add to the level of coverage provided by the public system [8]. However the uptake of private LTC insurance and hence its contribution to total LTC financing is generally low [8].

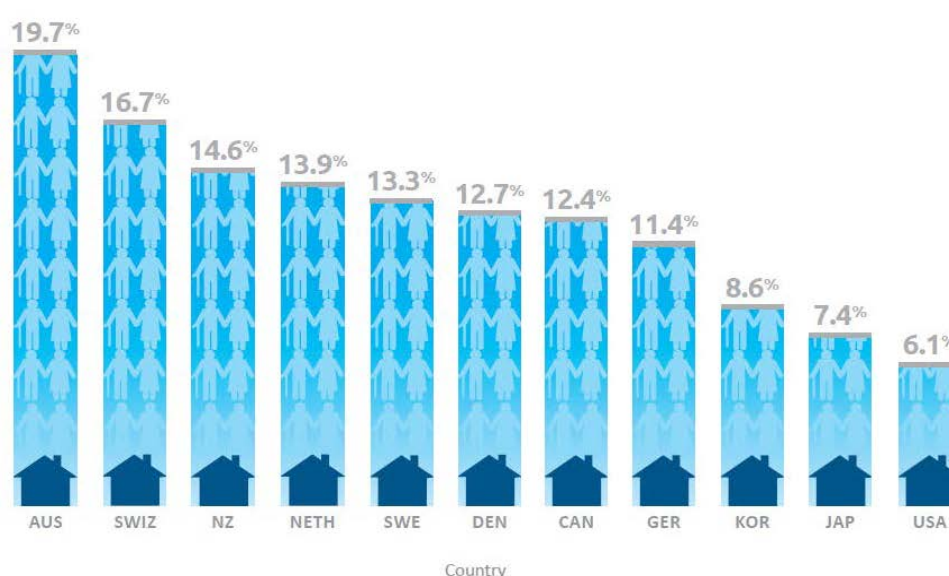
## 8. Synthesis

### Financing and organisation of LTC for older people

Comparisons of expenditure on LTC between countries as a proportion of GDP from OECD data are complex due to different reporting methodologies. In general, Australia's spending appears to be lower than the Scandinavian countries of Denmark, Norway and Sweden, as well as Japan and the Netherlands, and roughly similar to that of Canada and the UK. In Australia it appears that out-of-pocket costs comprise a relatively low level of financing of LTC in comparison to other nations, particularly if comparisons to lower- to middle-income countries with developing LTC systems are taken into account. Australia appears to employ a lower number of workers in the LTC sector relative to the number of care recipients than many of the countries for which data are reported to the OECD. Overall staffing levels in residential care appear to be lower in Australia than in the USA, Denmark, New Zealand, Switzerland and Germany and nursing levels lower than in the USA, Canada, Germany and Switzerland. These data have some uncertainty and warrant further investigation.

Australia appears to provide a moderate level of coverage (i.e., the proportion of the older population that accesses LTC) in comparison to other nations. The proportion of LTC provided for older people in institutions in Australia appears high (see Figure 24) and the level of provision of care at home relatively low. Some of this may be explained by counting: Australian data on home care recipients exclude CHSP home care recipients who only receive assistance for IADLs, which is in line with OECD data definitions, but the extent to which other nations have adhered to these definitions is unclear. Nevertheless, there appears to be a relatively high level of provision of aged care in institutions in Australia, i.e. provision of care to recipients with a higher level of dependency.

**Figure 24. Percentage of population aged 80 and over living in institutions**



Source: Data extracted on 6 May 2019 from OECD.Stat [https://stats.oecd.org/index.aspx?DataSetCode=HEALTH\\_STAT](https://stats.oecd.org/index.aspx?DataSetCode=HEALTH_STAT). Note: It is unclear whether or not care recipients in skilled nursing facilities in the USA are included in these data.

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Whether or not the level of dependency of people living in residential aged care in Australia is comparable to that of other nations is unknown. For those with very high-level needs, providing home care can be more expensive than institutional care [79]. Limiting the hours of home care that are available through public LTC in some nations can contain the use of home-based care to those for whom home care is the cheaper option. Most countries have wait lists for home care services [202]. A recent review of aged care in Australia (the Tune Review) indicated that the greatest levels of unmet demand in the Australian aged care system were for higher-level home care packages [230]. As of March 2019, the wait times for people approved for a level 4 package at a medium priority level were more than 12 months [61]. The wait time for a first package assignment at level 2, which can be taken as an option whilst awaiting a level 4 package, was also more than 12 months. As this level of support is unlikely to meet these care recipients' level of need, these people may be required to seek residential care despite being assessed as eligible for a home care package [248, 249]. It is possible therefore that some of the older people in residential care in Australia are at a level of need that could be supported outside of residential care.

A recent bottom-up costing of residential aged care in Australia has estimated the *whole-of-system* running cost of residential aged care as approximately \$82,300 for those with dementia and \$73,200 for those without, per resident, per year, including out-of-pocket costs [250]. In March 2019, the annual subsidy for a level 4 HCP was \$52,286 [61]. If some aged care recipients in Australia are entering residential aged care prematurely (i.e. at a lower level of dependency) due to lack of access to an adequate level of home support, then increasing the availability of high-level home care packages may be a less costly means of providing care for these people. The recent Tune Review recommended increasing the provision of home care by introducing level 5 home care packages up to a level equivalent to the cost of residential aged care in addition to increasing the proportion of high care packages [230]. Most people prefer to remain living in their own homes if possible; a willingness to pay 16% of the average income to avoid institutionalisation (in respondents over 55) has been reported [251].

Australia also has a relatively high rate of informal care. Supporting informal carers is an important component of a sustainable LTC system and an important component of providing care at home. The section "Support for informal care" in Chapter 7 outlines a range of international approaches including more extensive leave provisions than currently available in Australia and also approaches to financial support. Whilst providing cash benefits to care recipients is one common approach, a number of challenges have been outlined (see "Financial support: Cash for care and personal budgets" in Chapter 7), including whether increasing choice for the consumer leads to improved satisfaction or quality of care.

The integration of Australia's LTC system for older people with the health system may not be as well developed as in similar nations. This is indicated by typology scores lower than that of many other countries in the same group providing high access to LTC, although this rating is

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subjective. Australia was also the nation with the highest proportion of older people with high-level needs who reported dissatisfaction with the quality of health care in a Commonwealth survey of 11 countries. Australia was the second highest behind the USA for older people with high needs who experienced economic vulnerability. Australia includes an assessment of disability at the point of entry into the aged care system as part of the ACAT assessment. This represents an opportunity for early intervention to reduce the development of additional health problems.

## Quality regulation

The Australian LTC sector is highly regulated [26, 69, 70]. This approach generally attempts to ensure providers meet minimum standards but does not provide incentives for organisations that are already providing higher quality services [252]. The lack of publicly available, consistently presented and comparable quality of care or quality of life measures for recipients of LTC in different nations significantly hampered efforts to benchmark Australia against other nations in this review, in terms of quality of care provided. Nevertheless, examples of different approaches to regulating quality from other nations are informative. Many nations have multiple players involved in quality assurance, including organisations independent of the government department responsible for the provision of LTC.

Australia has an approach of predominantly regulating quality through a single, central agency, using an inspection-based approach, although some inspections for building design and fire and food safety are carried out at a more local level [26]. In contrast, many other nations have multiple levels of responsibility for the regulation of quality and many have a mainly decentralised approach. Increasing local involvement in the regulation of quality (i.e. decentralising) may allow for greater flexibility to support social innovation [220]. A challenge with a decentralised system is maintaining equity [220].

An increasing number of countries are using mandatory reporting and publicly available data collection in an attempt to empower consumer choice and drive improvements in quality [2]. Many countries have a much broader range of clinically based mandatory reporting items and assessments as quality of care indicators for LTC than those recently introduced in Australia. In the USA it is argued that Nursing Home Compare (a 5- star-rating system) has led to more informed consumer decision making [253] and some improvements in quality of care indicators [142], but there are concerns about the methodology of the ranking and how to respond to poor providers [17, 254]. It remains unclear whether the ranking systems have improved quality of life outcomes or user satisfaction [254]. While some countries use care recipient satisfaction measures, it appears that no countries have been successful at introducing a recipient-reported robust quality of life measure. Nevertheless, adoption of a data-based, public reporting regulatory system may better enable benchmarking of the quality of aged care provision in Australia against other nations internationally, as well as increasing transparency and public accountability.

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## International examples of good LTC for older people

Empirical comparisons of the performance of different country's LTC systems for the aged were hampered in this review by a lack of publicly available, comparable population-level data reporting outcomes for LTC recipients. Nevertheless, based on the information available, a typology analysis of financing and organisation of LTC for the aged and qualitative comparisons from the literature review, in the authors' view, **Denmark** and **Sweden** are countries that are likely to have good quality LTC systems.

Germany also performed well on the typology analysis of financing and organisation and had high levels of nursing staff. In Germany, a high proportion of providers have been reported as receiving good results as assessed against standards, making the publicly available assessments uninformative for consumers [21]. However, there is a lack of indicators that report on outcomes rather than structure and process [21]. It has been stated that there are severe flaws in the quality of German LTC [95].

Denmark was shown to be a high-performing country in an analysis of the typology of consumer-preferred financing and organisation of the LTC systems as well as having high levels of staffing. Denmark has also been reported to have high levels of satisfaction with the care and staffing in residential care and staffing in home care, although no quantitative comparisons to other countries could be conducted [86]. Denmark's LTC system also has a strong focus on prevention, rehabilitation and deinstitutionalisation [86].

Sweden performs well on the examined quality of care indicators for antipsychotic prescriptions and level of emotional distress in people 65 years or over. Sweden has also been reported to have a high-quality LTC system based on analyses from the OECD, the Swedish Association of Local Authorities and Regions, and high rates of reported user satisfaction [171]. Sweden has fairly minimal regulation for quality assurance [22, 171].

Both Sweden and Denmark have tax-based universal comprehensive coverage for LTC with a high expenditure of approximately 2% of GDP spent on long-term social care for the aged<sup>vii</sup> (greater than 4% of GDP on LTC as per estimates in Figure 10) and some out-of-pocket costs contributing to the financing of LTC. Both countries fund LTC through local authorities with federal grants and local taxes [87, 129]. They have high coverage of the older population (Figure 5 and Figure 12), with a moderate proportion of the LTC population in residential care (Figure 8). Both countries also have a focus on providing LTC in people's homes [86, 129]. Australia's demographic profile and GDP per capita (Figure 4) is similar to that of Sweden and Denmark, with a slightly lower proportion of the population over 80 and slightly lower GDP per capita.

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<sup>vii</sup> OECD data on public social expenditure on benefits in kind in old age programs.



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## 9. Opportunities for change

It has been stated that policy on LTC is inadequate in most countries, less developed than policies for the support of caring for children, and that there is a need to think of the system of care from more of a social, rather than just economic, perspective [202]. This review of international LTC systems has highlighted some key areas where care for older Australians may be improved:

- **Support for home-based care and informal carers.** Increasing the level of support for home-based care, with the aim of decreasing residential aged care utilisation, through increased delivery of high-level home care packages and increased support for informal care. Currently the wait times for level 4 packages in Australia are extensive, which may result in premature admission to residential aged care for some. Increasing the availability of these packages is necessary and increased levels of support should also be considered. Examples of ways to provide greater support for informal carers through more generous leave provisions and financial means exist in many nations.
- **Level of regulation.** Australia has been reported to have a comparatively high level of regulation of care structure and processes. Some nations with fewer regulations (notably Sweden) are reported to deliver high-quality care within the context of comprehensive LTC access and a high expenditure on LTC. Higher levels of regulation may stifle innovation and there is little evidence that they improve care quality. Increased decentralisation, as in many other nations, may also support innovation in the sector; however, maintaining equity may be a challenge without maintaining some level of centralisation. Some countries have encouraged quality through alternative approaches such as clinical quality registers, e.g. Sweden's Dementia Care Quality Register. South Australia has an existing register of all older people who receive an ACAT (ROSA) and this could be further leveraged.
- **Professionalism of the workforce.** Australia does not have mandatory training or registration of LTC workers. This does exist in some other nations, notable examples being Japan and Korea. Introducing mandatory training programs and registration of LTC workers may improve care in the sector.
- **Transparency in staffing levels.** Whilst more detailed quantitative analysis of staffing levels of residential aged care facilities in Australia is required, it appears that the number of LTC workers in Australia, relative to the number of care recipients, may be low.
- **Transparency in quality of care indicators.** A greater emphasis on publicly reported indicators of quality of care would bring Australia more in line with other nations. Mandatory public reporting of regulatory inspection, quality of care and outcomes data would enable benchmarking and comparison of quality and performance to other countries, and also enable informed consumer choice. While Australia has made changes to improve reporting, including consideration of outcomes-based

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assessments of quality, there are lessons from other nations' experiences, particularly on the public availability of a broader range of assessments. A regional example for Australia is New Zealand's adoption of interRAI assessments across both community and residential care settings. Alternatively, Australian clinical quality registers, which are independent of the provision of LTC, could be further leveraged to provide publicly reported indicators.

- **Integration with the healthcare system.** Australia's integration of the LTC system for older people with the health system may be poorer than many other similar nations. ACAT assessments provide an opportunity for early intervention to reduce the development of additional health problems.
- **Reablement.** A stronger focus on rehabilitation and maintaining function to delay and avoid disability is needed. For example, in Denmark rehabilitation is a compulsory part of home support before determining a person's need for LTC home services.
- **Human rights.** Some nations incorporate the principles of human rights into their aged care standards in an attempt to improve the quality of care, particularly for those without a voice. However, Australia lacks explicit incorporation of human rights principles into aged care regulation. Notable examples of other countries' approaches include prohibition of physical restraints in residential aged care according to specific guidelines as a condition for certification in Japan and a Resident's Bill of Rights, the principles of which (including reablement) are incorporated into the *Long-Term Care Act* in Ontario.

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## Appendix 1: Contributors to this report

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## Appendix 2: Detailed typology tables

A typology is used to compare the financing, regulation and access in aged care systems internationally. In general, the typology scores reflect consumer friendliness, with a score of 1 reflecting a system that is least preferred by consumers and a score of 3 reflecting a score that is most preferable to consumers [1]. The typology characteristics with scored values for organisation and financing of LTC are presented in Table 4 to Table 6. In addition to the typology scores, elements characterising key components of the regulatory system and descriptive variables that capture information about quality assurance and regulation, training requirements, sources of funding and the types of providers are summarised. The sum of the typology scores provides an indication of which countries have aged care systems that are likely to be preferable to the consumer.

**Table 4. Typology for international LTC for older people systems, nations A to J**

Characteristic	Australia [1, 11, 50, 64, 72, 252, 255-258]	Canada <sup>d</sup> (predominantly Ontario) [50, 74-77, 79, 82-84, 259, 260]	Denmark [14, 50, 86, 87]	Germany [1, 8, 15, 94-96]	Japan [50, 79, 99, 101, 104, 261]
Typology scores for organisation and financing of LTC (based on Kraus et al. [1]). Consumer friendliness: 1 = lowest, 3 = highest					
Means-tested access	3	2	3	3	3
Entitlement to formal care/home care	3 <sup>a</sup>	2	3	3	3
Availability of cash benefits	1	2	1 <sup>b</sup>	2	1
Recipients choose provider	3	3	3	3	3
Quality assurance	3	3	3	3	3
Quality of coordination between LTC and other services	2	2	3	2	3
Formal care recipients have cost sharing	2	2	3	3	2
Quality and regulation of the aged care system					
Central vs decentralised regulation	Centralised	Decentralised	Decentralised	Decentralised	Decentralised
Single vs multiple levels of responsibility	Single (central)	Multiple	Single (local)	Multiple	Multiple
Public reporting of assessments	Yes (residential) <sup>c</sup>	Yes	Yes	Yes	Yes
Public consumer ratings	Yes (residential)	No	Yes	Unclear	No
Regulatory approach (based on Mor et al. [2])	Inspection-based regulatory systems	Data measurement/public reporting regulatory system	Inspection-based regulatory system	Professionalism-based regulatory systems	Professionalism-based regulatory systems
Quality assurance	Responsibility of the federal government. All organisations are required to comply with national quality standards.	Responsibility of the provincial governments. All facilities require accreditation by either of the two external agencies.	Responsibility of the municipalities. Obligatory quality inspections are followed up twice a year by local authorities.	Responsibility of the state. External, routine unannounced quality inspections are publicly reported.	Responsibility of sub-national governments. Annual reports must be submitted to the governor and results are publicly reported online.

Characteristic	Australia [1, 11, 50, 64, 72, 252, 255-258]	Canada <sup>d</sup> (predominantly Ontario) [50, 74-77, 79, 82-84, 259, 260]	Denmark [14, 50, 86, 87]	Germany [1, 8, 15, 94-96]	Japan [50, 79, 99, 101, 104, 261]
		Annual, random inspections. Results of mandated interRAI assessments are publicly reported online.	Inspection reports are made publicly available.		There are three complaint processes for clients and families.
LTC worker mandates	LTC workers do not require mandated training although national training programs exist.	Registered nurses: minimum requirement by law. Other LTC staff: differ by provinces; no national standards	Training mandated for nurses in LTC; national minimum requirements but differs across municipalities.	Education and training standards are mandated; however the level of training varies across regions. Staffing numbers are mandated.	Mandated training is required for certified care workers, home helpers and community care workers. Staff:resident ratios mandated at 1:3.
Additional information on financing of LTC for older people					
Source of funding	LTC is predominately funded by the federal government through taxes (95%).	Predominately public funding (70%) from provincial health insurance plan. Residents' co-insurance or self-pay make up 22% of funding for LTC. The remaining 8% is made up by "other agencies", "preferential accommodation differential" and "sundry earnings".	Predominately financed through public finances (90%).	Social insurance (90%), private insurance (10%)	An equal split of social insurance premiums and general taxes fund LTC services, with 10% to 20% of financing coming from OOP co-payments for bed and board in IC.
Out-of-pocket costs	Estimated 5% of LTC costs. Residential care: means tested OOP contributions,	0.3% of GDP	0.2% of GDP 8% of LTC expenditure	0.4% of GDP 30.77% of LTC expenditure	0.1% of GDP 5% of LTC expenditure

Characteristic	Australia [1, 11, 50, 64, 72, 252, 255-258]	Canada <sup>d</sup> (predominantly Ontario) [50, 74-77, 79, 82-84, 259, 260]	Denmark [14, 50, 86, 87]	Germany [1, 8, 15, 94-96]	Japan [50, 79, 99, 101, 104, 261]
	minimum 85% of age pension		OOP costs make up 10% of LTC expenditure		10–20% of financing is OOP co-payments for bed and board in IC.  For home care, OOP costs are below the affordability threshold for people with all levels of needs (low, moderate, high)
Type of providers	Residential: 60% private non-profit & approx. 1/3 private for profit and state or local government providers [132].	Informal caregivers (66–84%)  Residential: private for-profit (44%), private not-for-profit (30%), and public facilities (27%)	Majority public Private (14%) Informal carers (8.3%) Majority HC (80%)	Private for profit (62%), private non-profit (37%), public (2%).	Home care: majority private.  Residential: predominately public or non-profit.

<sup>a</sup> For home care packages, although all are entitled, recipients may be placed on wait lists and do not necessarily receive packages in a timely manner.

<sup>b</sup> Family members can be approved and employed by the local municipality as home care workers [88, 215].

<sup>c</sup> Audit reports publicly available for residential, serious risk decisions and direction issued for residential and home care.

<sup>d</sup> Policies vary considerably between provinces.

*Abbreviations:* HC, home care; IC, institutional care; OOP, out-of-pocket.

**Table 5. Typology for international LTC for older people systems, nations K to P**

Characteristic	Republic of Korea [106-108, 169, 262]	Netherlands [1, 50, 79, 111, 114, 166, 263]	New Zealand [115, 116, 168]	Poland [20, 117, 118, 264, 265]
Typology scores for organisation and financing of LTC (based on Kraus et al. [1]). Consumer friendliness: 1 = lowest, 3 = highest				
Means-tested access	3	3	3	1
Entitlement to formal care/home care	3	3	3	3
Availability of cash benefits	2 <sup>a</sup>	2	1	2
Recipients choose provider	3	3	3	3
Quality assurance	3	3	3	2
Quality of coordination between LTC and other services	2	2	3	2
Formal care recipients have cost sharing	1	1	1	1
Quality regulation of the aged care system				
Central vs decentralised	Decentralised (registration), & centralised (inspection)	Decentralised	Centralised	Decentralised
Single vs multiple levels of responsibility	Multiple	Multiple	Multiple	NA <sup>b</sup>
Public reporting of assessments	Yes	Yes	Yes	NA <sup>b</sup>
Public consumer ratings	No	Yes	Yes	NA <sup>b</sup>
Regulatory approach (Mor et al.[2])	Developing regulatory systems	Inspection-based regulatory systems	Data measurement and public reporting based regulatory systems	Developing regulatory systems
Quality assurance	The National Health Insurance Corporation (NHIC) and local government are jointly responsible for quality assurance.	Responsibility of the central government and external agencies.	Responsibility of national government and District Health Boards (DHBs)  Results of annual, random, "spot" auditing, using interRAI, in	Quality standards established for residential care institutions. No monitoring of informal care.

Characteristic	Republic of Korea [106-108, 169, 262]	Netherlands [1, 50, 79, 111, 114, 166, 263]	New Zealand [115, 116, 168]	Poland [20, 117, 118, 264, 265]
	Pay-for-performance and public reporting are used as quality control mechanisms.		IC and HC facilities are publicly available.	
LTC workers mandated training	National curriculum of minimum requirements for LTC workers is established. Care aides are certified.	No mandated training is required for LTC workers. Family members are able to become care aides if they undergo training.	Staff ratios, certification ratios and adequate staffing levels are required in IC. National voluntary standards are provided for HC; however home support workers are not regulated or certified nationally.	Major differences between health and social systems. Health sector: regulated employment and higher wages. Many LTC workers are unmonitored and unregistered, paid privately.
Additional information on financing of LTC for older people				
Source of funding	LTC funding is made up of mandatory premium contributions (60–65%) and government subsidies (20%)	Majority of LTC services financed through the social insurance scheme.	DHBs finance approximately 60% of LTC provided.	LTC services financed by the public sector are only a small part of overall expenditure. Majority of care provided informally and privately financed.
Out-of-pocket costs	15–20% LTC funding OOP co-payments	0.2% of GDP 5.41% of LTC expenditure OOP co-payments 8.7% of total LTC services spend in 2015. OOP costs are below the affordability threshold for home care regardless of level of need	0.1% of GDP	OOP costs high, data not available.
Type of providers	Predominately private providers (99.5%)	Majority of LTC services are provided by private, non-profit organisations.	Home care: all NGOs Residential: majority private	Residential: < 1% Informal > 80%

<sup>a</sup>Cash benefits available but infrequently provided [107].

<sup>b</sup>As quality assurance is minimal in Poland these items are considered not applicable.

*Abbreviations:* HC, home care; IC, institutional care, OOP, out-of-pocket.



**Table 6. Typology for international LTC for older people systems, nations Q to U**

Characteristic	Singapore [122-124, 126, 127, 266]	Sweden [1, 32, 50, 79, 128, 171]	Switzerland [50, 79, 130, 132, 133]	England [1, 11, 50, 79, 91, 93, 267]	USA [16, 79, 134, 138, 142]
Typology scores for organisation and financing of LTC (based on Kraus et al. [1]). Consumer friendliness: 1 = lowest, 3 = highest					
Means-tested access	1 <sup>a</sup>	3	3	1	1
Entitlement to formal care/home care	3	3	3	2	3
Availability of cash benefits	3 <sup>b</sup>	1 <sup>c</sup>	1	2	2
Recipients choose provider	3 <sup>b</sup>	3	3	3	3
Quality assurance	2	3	3	3	3
Quality of coordination between LTC and other services	2	3	3	2	2
Formal care recipients have cost sharing	1	1	1	2	1
Quality and regulation of the aged care system					
Central vs decentralised	Central	Decentralised	Decentralised	Centralised	Decentralised
Single vs multiple levels of responsibility	Multiple	Multiple	Multiple	Multiple	Multiple
Public reporting of assessments	No	Yes	No	Yes	Yes
Public consumer ratings	Unclear	Yes	No	Yes	Yes
Regulatory approach (Mor et al. [2])	Inspection-based regulatory systems	Data measurement/public reporting regulatory system	Professionalism-based regulatory systems	Inspection-based regulatory systems (England)	Data measurement and public reporting based regulatory systems

Characteristic	Singapore [122-124, 126, 127, 266]	Sweden [1, 32, 50, 79, 128, 171]	Switzerland [50, 79, 130, 132, 133]	England [1, 11, 50, 79, 91, 93, 267]	USA [16, 79, 134, 138, 142]
Quality assurance	<p>Responsibility of Ministry of Health</p> <p>At least once a year, most VVO establishments and programs are inspected.</p> <p>Centre-based care not licensed in Singapore.</p>	<p>Responsibility of the municipalities.</p> <p>Some external agencies publicly report results of quality inspections online.</p>	<p>Responsibility of the cantons within federal law requirements.</p> <p>Quality data are analysed and facilities with poor outcomes require reinspection. No obligation to make the results publicly available.</p>	<p>Responsibility of the federal government.</p> <p>Regular inspections collect qualitative and quantitative data on quality of care.</p>	<p>Responsibility of state governments. States follow a uniform minimum national set of standards.</p> <p>IC facilities are required to collect and publicly report RAI Minimum Data Set monitors.</p>
LTC worker mandates	<p>Training is mandated for LTC workers.</p> <p>There are prescribed staff:care recipient ratios and requirements for numbers of professional staff.</p>	<p>National training is not mandated for LTC workers and differs across municipalities.</p>	<p>Mandated training qualifications for nurses. No mandated training or qualification requirements for LTC workers. No national standards for staffing ratios.</p>	<p>Professional education and training standards exist; however the enforceability depends on the staff group. Social and care worker training is less enforced (England).</p>	<p>Nursing homes funded by Medicare and Medicaid must meet minimum nurse staffing ratios; however further staffing requirements differ across states.</p>
Additional information on financing of LTC for older people					
Source of funding	<p>Long-term social services and supports expenditure on people aged &gt; 65 in 2015: government spending (42%), charitable donations (9%), and LTC insurance (9%).</p>	<p>Subsidised through local taxes (90%), OOP costs (5%) and national grants (5%).</p>	<p>Funding is made up of mandatory insurance (19% in IC, 35% in HC), private households, old age and disability benefits and government subsidies.</p>	<p>Of people requiring LTC, 50% are privately or self-funded, 37% fully funded, 12% partially funded and 10% funded through NHS (England).</p>	<p>In IC majority of funding is from Medicaid (62%) and private sources (25%). A small proportion of IC is financed through Medicare (13%).</p>
Out-of-pocket expenditure	<p>Expenditure on people ≥ 65 included 40% OOP spending in 2015</p>	<p>0.2% of GDP</p> <p>6.25% of LTC expenditure</p> <p>User fees 3–4% of LTC funding</p> <p>For home care, OOP costs are below the affordability threshold for people with low, moderate and severe needs.</p>	<p>0.7% of GDP</p> <p>41.18% of LTC expenditure</p> <p>18% funding OOP, old age and disability benefits by voluntary health insurance or other private funds</p>	<p>0.5% of GDP</p> <p>For home care (England), it is expected that people contribute all of their income, except for an allowance for living costs.</p>	<p>0.2% of GDP</p> <p>For home care, it is expected that people contribute all of their income, except for an allowance for living costs.</p>

Characteristic	Singapore [122-124, 126, 127, 266]	Sweden [1, 32, 50, 79, 128, 171]	Switzerland [50, 79, 130, 132, 133]	England [1, 11, 50, 79, 91, 93, 267]	USA [16, 79, 134, 138, 142]
Type of providers	Majority provided by VWOs, remainder private, for-profit providers.	LTC services are delivered by a mix of public and private providers.	A mix of state-operated, private with public subsidies and exclusively private providers, differing between IC and HC.	Predominately private providers, not for profit (England).	Mix of private for-profit providers.

<sup>a</sup> Whilst the majority of citizens have access to LTC at at least a basic level through LTC insurance, this is an opt-out private LTC insurance scheme rather than publicly financed.

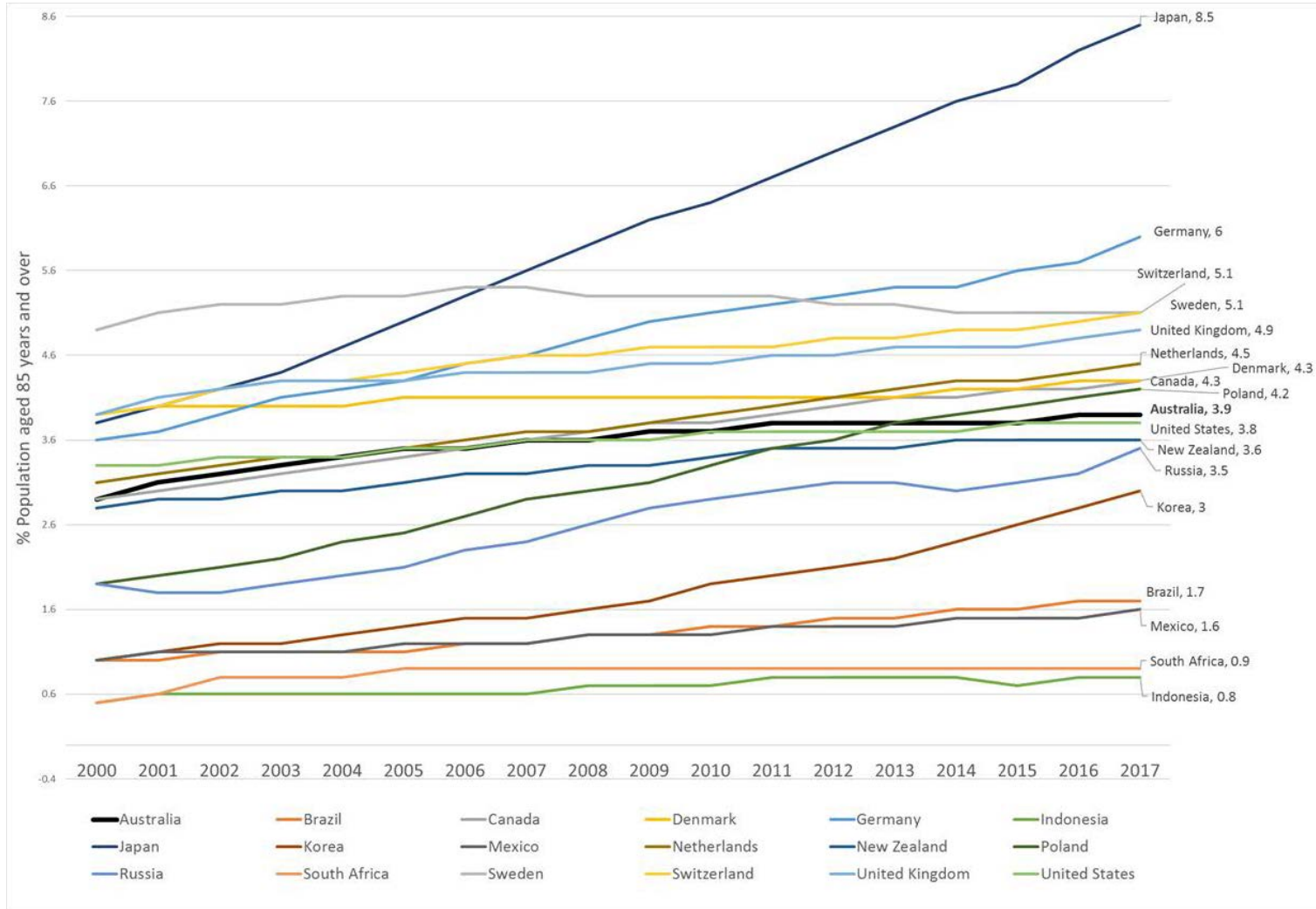
<sup>b</sup> Through ElderShield, government-run private LTC insurance.

<sup>c</sup> Some availability of cash benefits but plays a minimal role [171]. In some municipalities family members can be approved and employed by the local municipality as home care workers [22].

*Abbreviations:* HC, home care; IC, institutional care; NHS, National Health Service; OOP, out-of-pocket; RAI, Resident Assessment Instrument; VWO voluntary welfare organisation.

## Appendix 3: Additional tables and figures of quantitative comparisons

Figure 25. Proportion of people 80 years and over, 2000–2017

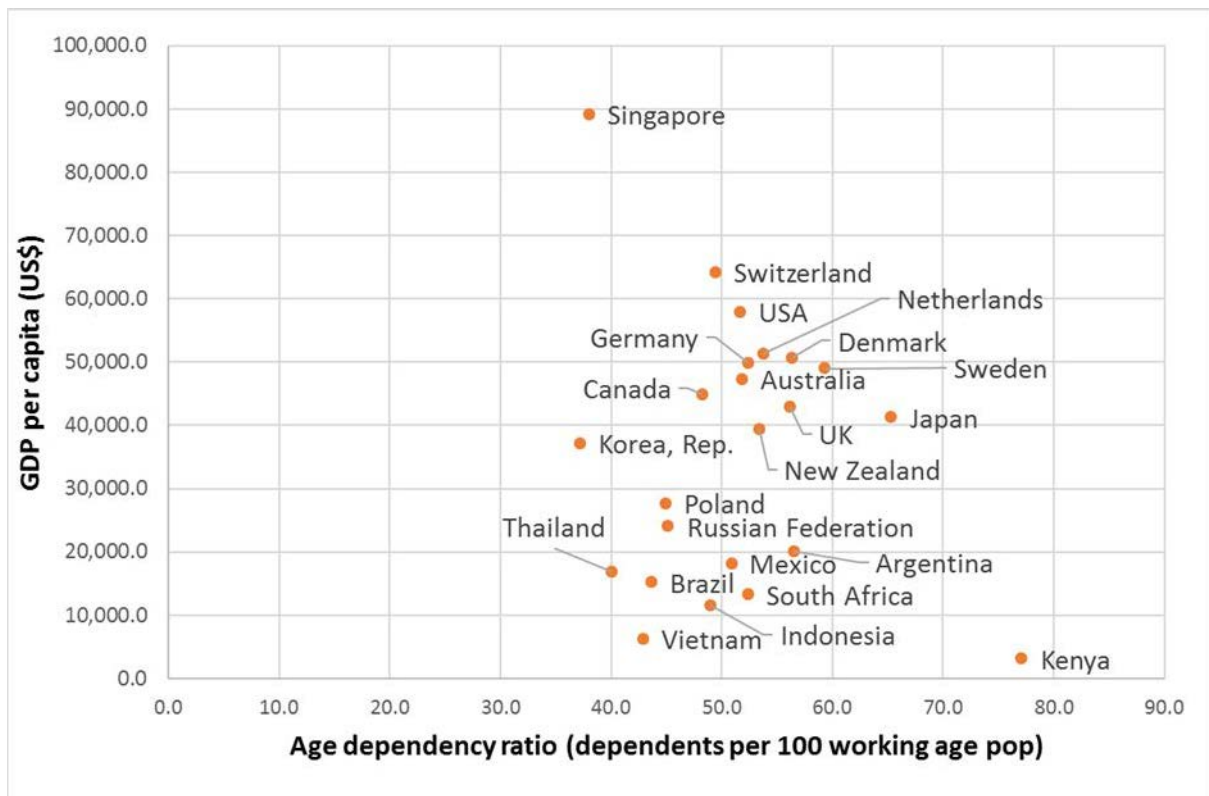


Source: Data extracted on 6 May 2019 from [https://stats.oecd.org/index.aspx?DataSetCode=HEALTH\\_STAT](https://stats.oecd.org/index.aspx?DataSetCode=HEALTH_STAT)

## Additional expenditure data

Figure 26 shows that, amongst Western nations with generally similar demographic profiles (e.g. Australia, UK, USA, New Zealand, the Netherlands), there is little relationship between government expenditure on LTC and the national age dependency ratio. Japan again has a high age dependency ratio relative to GDP per capita.

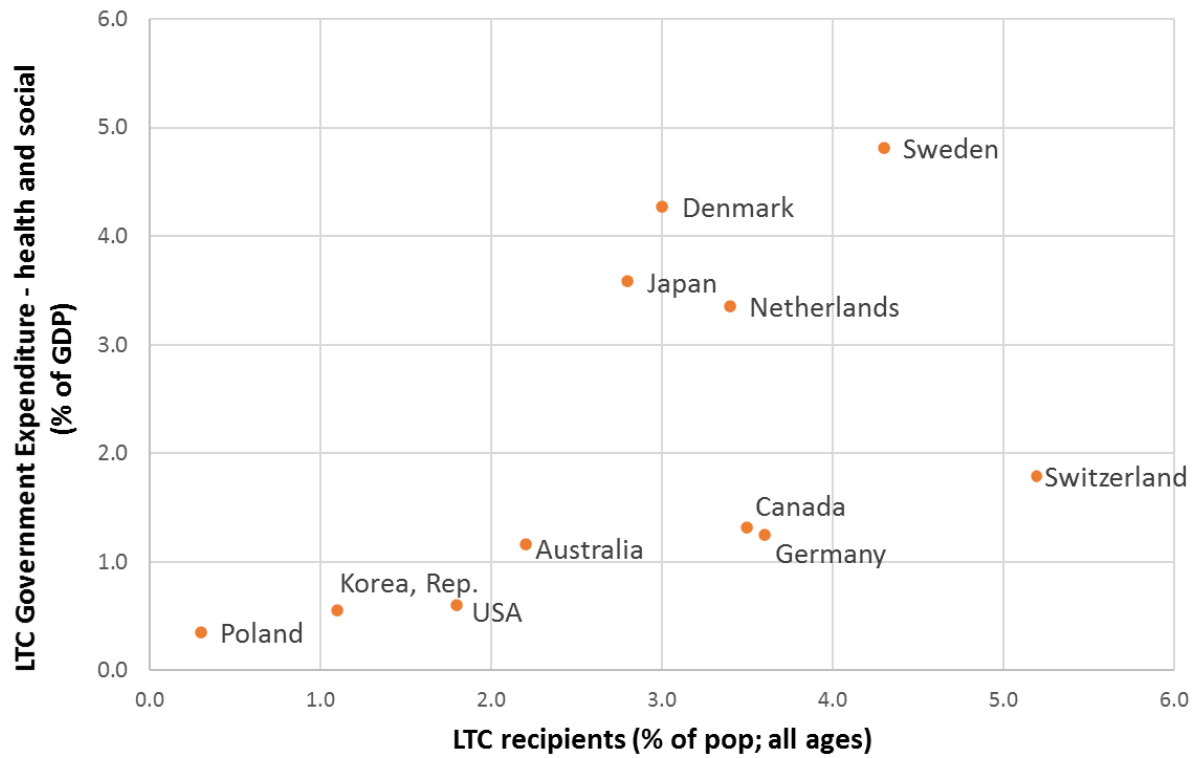
**Figure 26. GDP per capita versus age dependency ratio**



Source: Data extracted on 6 May 2019 from <https://databank.worldbank.org/data/source/world-development-indicators>. Note: data are shown as the proportion of dependents per 100 working-age population, 2016.

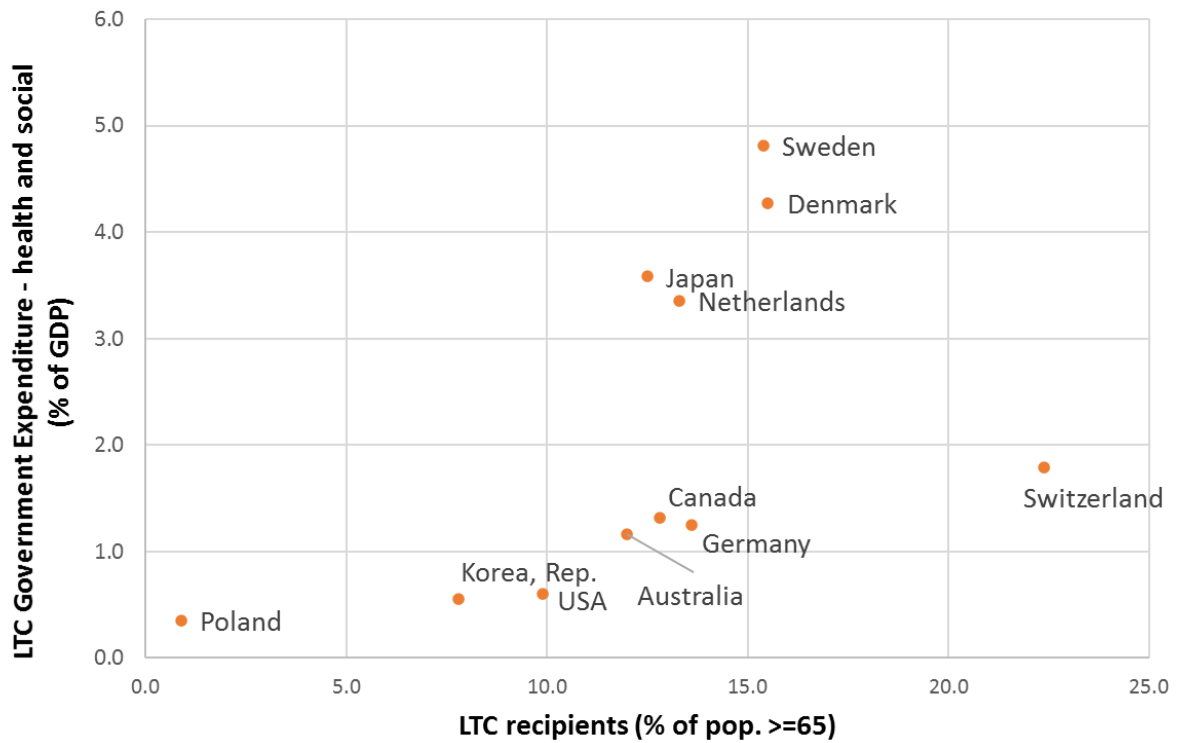
Figure 27 and Figure 28 show the relationship between government expenditure on LTC and the proportion of the population receiving LTC: Figure 28 shows the LTC recipient population aged 65 and over.

Figure 27. Government expenditure on LTC for older people against LTC recipients (all ages)



Source: LTC recipient data and government expenditure data extracted on 6 May 2019 from [https://stats.oecd.org/index.aspx?DataSetCode=HEALTH\\_STAT](https://stats.oecd.org/index.aspx?DataSetCode=HEALTH_STAT).

**Figure 28. Government expenditure on LTC for older people against LTC recipients (65 years and over)**

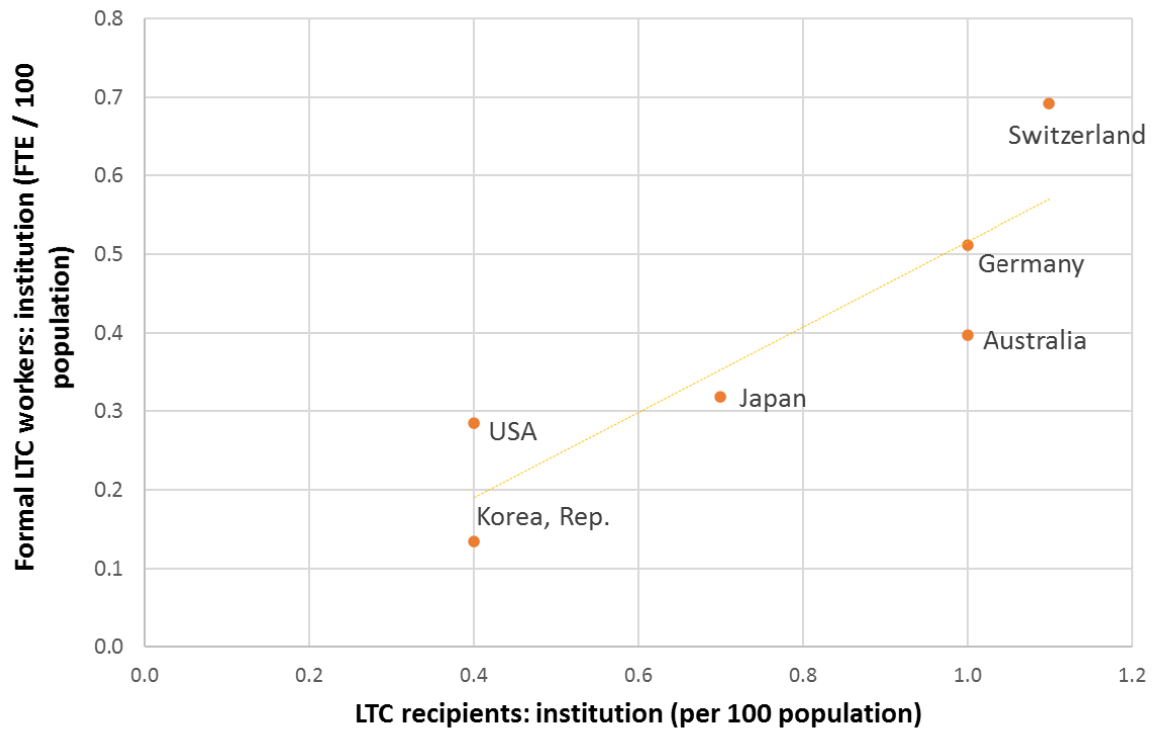


Source: LTC recipient data and government expenditure data extracted on 6 May 2019 from [https://stats.oecd.org/index.aspx?DataSetCode=HEALTH\\_STAT](https://stats.oecd.org/index.aspx?DataSetCode=HEALTH_STAT).

### Additional figures on LTC workforce

Additional figures displaying LTC workforce data as FTE rather than headcounts are provided in Figure 29 and Figure 30.

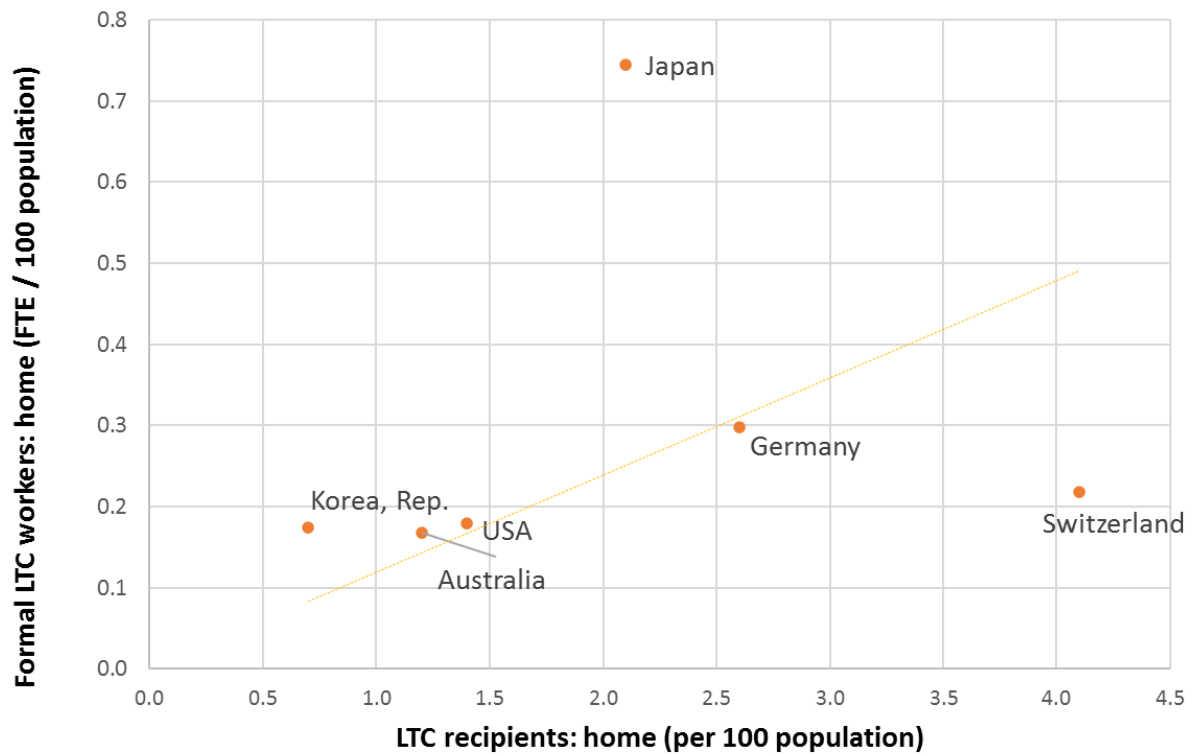
Figure 29. Number of full-time equivalent formal LTC workers with respect to number of recipients of LTC, institutional settings



Source: LTC recipient data extracted on 6 May 2019 from [https://stats.oecd.org/index.aspx?DataSetCode=HEALTH\\_STAT](https://stats.oecd.org/index.aspx?DataSetCode=HEALTH_STAT). Formal LTC worker values calculated based on data extracted on 6 May 2019 from [https://stats.oecd.org/index.aspx?DataSetCode=HEALTH\\_STAT](https://stats.oecd.org/index.aspx?DataSetCode=HEALTH_STAT) and <https://databank.worldbank.org/data/source/world-development-indicators>.



Figure 30. Number of full-time-equivalent formal LTC workers with respect to number of recipients of LTC, home care settings



Source: LTC recipient data extracted on 6 May 2019 from [https://stats.oecd.org/index.aspx?DataSetCode=HEALTH\\_STAT](https://stats.oecd.org/index.aspx?DataSetCode=HEALTH_STAT). Formal LTC worker values calculated based on data extracted on 6 May 2019 from [https://stats.oecd.org/index.aspx?DataSetCode=HEALTH\\_STAT](https://stats.oecd.org/index.aspx?DataSetCode=HEALTH_STAT) and <https://databank.worldbank.org/data/source/world-development-indicators>.

## Appendix 4: Quality of care indicators

Data identified on quality of care indicators for nominated countries are summarised below.

**Table 7. Prevalence of antipsychotic use**

Year	Source	Population	Outcome	Measure	Country	Value
<b>Population-based estimates</b>						
2015	OECD (2017) [50]	People aged >65	No. people with a prescription of antipsychotics (per 1000 people)	Annual prescription rates	Australia	33.7 per 1000
					Canada	56.5 per 1000
					Denmark	34.6 per 1000
					Netherlands	30.5 per 1000
					New Zealand	47.6 per 1000
					Sweden	29.7 per 1000
					UK	55.7 per 1000
<b>LTC recipients</b>						
2012 – 2013	Kuroda et al.'s population-based estimation [268]	LTC beneficiaries aged > 75	Antipsychotic use	1-year prevalence	Japan	3.8%
<b>Institutional care</b>						
2018 (3 <sup>rd</sup> quarter)	CMS.gov MDS report [56]	Residents in LTC (age unclear)	Antipsychotics taken, (excludes taken for schizophrenia, Tourette's or Huntington's)	7-day prevalence	USA	20.06%
2004 – 2005	National Nursing Home Survey [269]	Residents in LTC aged > 60	Antipsychotics taken	1-day + regular medications prevalence	USA	26%
2013 – 2015	ROSA [270]	Residents in LTC (9–12 months after entry into care) aged > 65 or > 50 if ATSI	Antipsychotics dispensed	3-month prevalence	Australia	20.30%
2017 – 2018	CIHI national report [83]	Residents in LTC (age unclear)	Antipsychotics received	7-day prevalence	Canada	26.10%
2008	Swedish Prescribed Drug Register [271]	Residents in LTC aged > 65	Antipsychotics dispensed	3-month prevalence (≥ 1 prescription filled Jul–Sept 2008)	Sweden	20%

2009 – 2012	Szczepura et al. (2016) Electronic Medicines Management System [272]	Residents in LTC aged > 65 N = 31,619	Antipsychotics prescribed	Unclear	UK	19%
2013	SHELTER study [190]	Residents in LTC	Antipsychotic use	6-month adjusted prevalence	Netherlands	0.13
					Germany	0.36
					England	0.45
					Czech Republic	0.30
					Finland	0.21
					France	0.38
					Israel	0.22
Italy	0.34					
<b>People with dementia in institutional care</b>						
2013	Vasudev et al. [273]	Residents in LTC with dementia aged > 65 N = 59,785	Atypical antipsychotics dispensed	3-month prevalence	Canada (Ontario)	34%
2018	PROPER study [185]	Residents in LTC with dementia aged > 62	Antipsychotics prescribed	point prevalence	Netherlands	25%
2009–2011	SHELTER study [274]	Residents in LTC with dementia (sample from the SHELTER study)	Atypical and conventional antipsychotic use	3-day prevalence rate	Netherlands	27% (atyp 14%, conv 23%)
					England	Conv 2%
					Czech Republic	60% (atyp 35%)
					Israel	18%

*Abbreviations:* ATSI, Aboriginal and Torres Strait Islander; atyp, atypical; CIHI, Canadian Institute for Health Information; CMS, Centers for Medicare & Medicaid Services; conv, conventional; PROPER, Prescription Optimization of Psychotropic drugs in Elderly nursing home patients with dementia; ROSA, Registry of Senior Australians; SHELTER, Services and Health for Elderly in Long Term care.

**Table 8. Falls prevalence**

Year	Source	Population	Outcome	Measure	Country	Value
<b>Community-dwelling population</b>						
2013	Canadian Community Health Survey [275]	Community-dwelling seniors aged > 65 (N = 17,290)	Rate of fall-related injuries in the previous year <sup>a</sup>	Rate per 1000 population	Canada	58.8 per 1000
<b>Institutional care</b>						
2009–2011	SHELTER study [53]	Institutional residents (England: N = 507, mean age = 84.5; Germany N = 496, mean age = 84.6; Netherlands: N = 548, mean age = 81.0)	Unadjusted falls at baseline	Unclear (residents at study entry)	England	14.2%
					Germany	23.2%
					Netherlands	22.8%
					Czech Republic	26.2%
					Finland	20.9%
					France	19.3%
					Israel	10.3%
Italy	13.7%					
2010–2011	OECD [32]	Institutional residents (approx. 300 LTC homes)	Number of falls in the last 30 days <sup>a</sup>	30-day falls rate	Canada, Ontario	14%
2017–2018	CIHI national report [83]	Residents in LTC (age unclear)	Unadjusted rate of residents in continuing care facilities who have fallen <sup>a</sup>	Quarterly falls rate	Canada	14.5
2018 (3 <sup>rd</sup> quarter)	CMS.gov MDS report [56]	Nursing home residents	Residents with falls during episode of care	Episode of care	USA	17.0%

<sup>a</sup>as described in data source

Abbreviations: OECD, Organisation for Economic Co-operation and Development.

**Table 9. Pressure ulcer prevalence**

Year	Source	Population	Outcome	Measure	Country	Value
<b>Home care</b>						
2015/2016	InterRAI annual report [276]	Aged > 65 years	Pressure ulcer risk scale scores (range 0–8)	% scoring high to very high (4–8)	New Zealand	6%
<b>Institutional care</b>						
2009-2011	SHELTER study [53]	Older adults residing in institutions	Prevalence of pressure ulcers at study baseline	Unclear	England	10.7%
					Germany	9.7%
					Netherlands	10.8%
					Czech Republic	15.8%
					Finland	4.8%
					France	11.8%
					Israel	6.6%
					Italy	13.3%
2015/2016	InterRAI annual report [276]	LTCF residents aged > 65 (N = 33,027)	Pressure ulcer risk scale scores (range 0–8)	% scoring high to very high (4–8)	New Zealand	10%
2017–2018	CIHI national report [83]	Residents of residential aged care facilities	Unadjusted rate of new or worsened stage 2 to 4 pressure ulcers <sup>a</sup>	Rolling 4-quarter average	Canada	2.9
2018 (3 <sup>rd</sup> quarter)	CMS.gov MDS report [56]	Residents of nursing homes (age unclear)	People with ≥ 1 ulcer Stage 1 or higher	Episode of care	USA	6.9%
2011	National prevalence survey [277]	National nursing home residents aged > 17 (N = 18,592)	People with pressure ulcer	Point prevalence	Sweden	14.5%

<sup>a</sup>as described in data source

*Abbreviations:* CIHI, Canadian Institute for Health Information; CMS, Centers for Medicare & Medicaid Services; SHELTER, Services and Health for Elderly in Long Term care.

**Table 10. Quality of life and emotional distress**

Year	Source	Population	Outcome	Measure	Country	Value/s
<b>Population-based</b>						
2007–2010	SAGE cohort study, Wave 1 [191, 192, 194]	People aged > 50 Mexico N = 2313, Russia N = N/A, South Africa N = 3836	Quality of life	Mean WHOQoL scores	Mexico	51.1
					Russia	49.3
					South Africa	50.5
2011–2012	COURAGE project [278]	Poland (mean age 44.6 y, N = 2863) Spain (mean age 46.1 y, N = 2256)	Quality of life	Mean WHOQoL-AGE score	Poland	69.9
					Spain	74.4
1993 to 2008	EuroQol Group Szende et al. [193]	Aged > 75 N range 1,307 (Korea) to 41,392 (Argentina)	Health-related Quality of life	EQ-5D-3L index population norms (based on country-specific TTO value sets)	Argentina	0.756
					Denmark	0.794
					France	0.735
					Germany	0.839
					Italy	0.839
					Korea	0.888 (65–74 years)
					Netherlands	0.830
					Spain	0.781
					UK	0.726
					UK-England	0.703
2017	Commonwealth Survey [195]	Aged > 65 N range 500 (NZ) to 7000 (Sweden)	Emotional distress	<i>In the past 2 years, have you experienced emotional distress, such as anxiety or great sadness, which you found difficult to cope with by yourself? (% YES)</i>	Australia	26.6%
					Canada	19%
					Germany	19.5%
					Netherlands	20.3%
					New Zealand	15.6%
					Sweden	10.5%
					Switzerland	15.7%
					UK	19%
					USA	19%

Abbreviations: COURAGE, Collaborative Research on Ageing in Europe; TTO, time trade-off SAGE, Study on global AGEing and adult health; y, years.