*Typologizing OECD Long-Term Care Systems*

**Abstract**

Providing long-term care (LTC) to the elderly is a major challenge for all welfare states. The financing, provision, regulation, accessibility and performance of LTC systems differ widely across countries, however. To address differences and similarities in these dimensions systematically, we aim to typologize OECD LTC systems. Due to the maturation, economization and marketization of LTC systems an updated and extended typology is needed. Furthermore, compared to earlier typologies, we make three advancements. First, earlier typologies focus either on social services in general or on one aspect of LTC such as migration or family caregiving. Our approach clearly focuses on characteristics of LTC *institutions*. Second, earlier typologies used either solely quantitative OECD or Eurostat data or data on institutional and regulatory aspects of LTC systems. We integrate both approaches by using quantitative OCED data on financing, provision and performance *as well as* institutional data on regulation and accessibility of systems. Third, we use quantitative clustering methods, which are widely used in healthcare and welfare state typologies but not yet in LTC typologies. These advancements increase the empirical basis of comparative LTC systems research and make results more comparable to other welfare and healthcare typologies.

**Introduction**

Demographic ageing is a major concern in the developed countries and poses challenges to the social security systems. Thereby especially long-term care systems get into focus. This is because the amount of people in the critical age frame in which long-term care needs accelerate is increasing. Furthermore, due to increasing life expectancy there is the concern of increasing duration of time in need of care [xxxx]. Due to this expected double burden countries reshape their LTC systems on the one hand to make them more efficient and financially robust and on the other hand to increase the access and performance of LTC systems. Thus, in recent years LTC system have been under construction in many OECD countries. Marketization, economization and corporatization are processes that describe the reform processes in many OECD countries’ LTC systems [xxxGlenndinging].

When talking about LTC a clear definition is needed. The OECD defines LTC as: “range of services required by persons with a reduced degree of functional capacity, physical or cognitive, and who are consequently dependent for an extended period of time on help with basic activities of daily living (ADL). This “personal care” component is frequently provided in combination with help with basic medical services such as “nursing care” (help with wound dressing, pain management, medication, health monitoring), as well as prevention, rehabilitation or services of palliative care. Long-term care services can also be combined with lower-level care related to “domestic help” or help with instrumental activities of daily living (IADL).” (Colombo et al., 2011: 11–2). This definition is independent of age of the recipient yet, most LTC recipients are above 65 years [xxxx]. Thus, for the elderly LTC systems are highly important and we focus the typology on the services and systems for this age group.

**Theory**

**Long-term Care Classifications – A brief overview on comparative-institutional research**

Typologizing welfare states or welfare state systems is not at least since Esping-Andersen (1990) seminal study a common endeavour in welfare state research. His work and the following adaptions and discussions (Ferrera, 1996) still provide a basic template for case selection and evaluation also in social service research (Rostgaard, 2002). Nevertheless, since then a number of different typologies including LTC or LTC facets were published. These typologies can be devided into three groups. A first group of typologies focuses on social services generally, in which LTC is included among other parts such as childcare into these typologies (Anttonen and Sipilä, 1996; Bettio and Plantenga, 2004; Kautto, 2002; Leitner, 2003; Saraceno and Keck, 2010). A second group of typologies focuses genuinely on LTC for the elderly, although often (due to data reasons) also disability is included in these typologies) (Alber, 1995; Colombo, 2012; Damiani et al., 2011; Kraus et al., 2010; Halásková et al., 2017; Pommer et al., 2009; van Hooren, 2012). A third group of typologies focuses on special aspects of LTC and zoom in on migration in the context of LTC (Anderson, 2012; Da Roit and Weicht, 2013; Simonazzi, 2008; van Hooren, 2012; Simonazzi, 2008), cash for care schemes in LTC (Da Roit and Le Bihan, 2010) and informal care by families (Di Rosa et al., 2011; Leitner, 2003; Pfau-Effinger, 2014; Simonazzi, 2008).

Because, our focus lies on building a genuinely LTC typology the second group of typologies is the most relevant for us. In these typologies we see a huge variety in the (number of) included country cases, data, methods and results.

The includes country cases vary from about ten European cases [Alber, Halaskova, Pommer] to about 20 and more European [Damiani, Kraus] and OECD [Colombo]. Concerning methods, especially those typologies which include only a small number of countries and aim to develop more theoretical clusters mainly use their descriptive evaluations to find similarities and differences between cases and to derive at more theoretical clusters [Alber, xxxxx]. Those typologies which have a stronger empirical, quantitative focus mainly use cluster analysis for building clusters [Halaskova, Kautto, Kraus, Saraceno]. Concerning dimensions and indicators, again we see a hughe variety.a dimension that is taken into account in all typologies is supply. This includes in most typologies financial resources [Alber, Colombo, Damiani, Haslakova, Kraus], staff and staffing levels [Alber], bed density in institutional LTC [Alber, Damiani]. Also the type of provision is a dimension that is often operationalized via the percentage of people in ambulatory or residential care settings [Alber, Damiani, Halaskova].

Quality indicators in LTC are hard to get. Yet some typologies try to include these. [Damiani] uses the share of people over 80 reporting good or very good health and the perceived limitations in ADLs for people aged 65 or older. [Kraus et al] use more institutional indicators of mandatory quality assurance systems and the degree and functioning of integrated services.

Because most typologies use OECD or Eurostat data the indicators are foremost quantitative. More institutional dimensions and indicators, which are commonly used in healthcare typologies, which also focus on services and are in its construction comparable to LTC typologies

Focusing first on results, Pommer et al. (2009) find three clusters, which are similar to those, based on common welfare state typologies (Esping-Andersen, 1990; Ferrera, 1996): a nordic model including Sweden, the Netherlands and Denmark, a continental model including Belgium, France, Austria and Germany and a Mediterranean model including Italy, Spain and Greecce. Colombo's (2012) typology finds three clusters, too, which are based on the financing and coverage of the LTC systems: universal coverage within a single system, mixed systems and means-tested systems. Only the US and England belong to the last cluster; the first cluster is dominated by northern and continental European countries, Japan and Korea. The typology by Damiani et al. (2011) finds four clusters which are essentially a mix of the former two typologies: one including mainly eastern European and some southern European countries, one southern European cluster including two eastern European countries, and two clusters that include northern and continental European cluster. Kraus et al. (2010) present two typologies in their study. The first one finds two distinct eastern European countries and two distinct clusters including both continental and northern European countries. The second typology find four clusters, two where nearly all clusters include countries from all European regions. Halásková et al. (2017) focus on expenditure and the number of LTC patients and find three clusters, the first, including Australia and Korea, the second including the Czech Republic, Estonia and Hungary and the third including nordi and continental European countries.

What we want to improve compared to the former typologies: We want to use clear dimensions, which have been proved to be important for LTC and social services, we want to use cluster analysis which is common among typologies, we want to extend the number of cases and indictors. The only study, which uses an OECD country sample and not a sample, which is only based on European countries is Colombo (2012), yet the study uses only financing indicators. The study using a large set of indicators and countries is Kraus et al. (2010). Yet, only European countries and the cluster analysis are poorly executed (own index building instead of standardization of indicators in first analysis and for second analysis no standardization at all performed)

**Data and Methods**

Focusing on the typologies that focus genuinely on LTC we can make up several dimension and indictors that are used are used:

supply

One dimension that has received the most attention is the level of resources that we call supply. The high focus on supply can be explained by the well developed database in this dimension (Alber, 1995; Colombo, 2012; Damiani et al., 2011; Kraus et al., 2010; Halásková et al., 2017). Especially, for LTC it is hard to measure and compare actual benefit and service packages and supply measures give a rough approximation of this. We include LTC expenditure (health) (per capita (in US of purchasing power parities). This includes all expenditure on bodily related LTC (mainly ADLs). We would have liked to include also LTC expenditure (social), which includes mainly IADLs (Halásková et al., 2017). We include the number of LTC beds per 1000 population aged 65 or older. Yet there were to many missing data. We were also not able to include data on staff and staffing level as a measure of human resources.

We use the number of LTC recipients in institutions measured as the percentage of all people aged 65 years and older as a measure of actual access to these facilities.

Public-private mix

The second dimension focus on who is providing and financing LTC. We operationalize this via the share of private (voluntary and out-of pocket) expenditure as share of the total expenditure. We also include the availability of cash benefits here because research has show that the avaibaility of cash benefits fosters family and migrant care []

Access regulation

Earlier work has shown that access to LTC system is crucial for XXX. We use two indexes for measuring access. First an index on means testing for benefits that includes if home and residential care benefits are means-tested. Second a choice index is built which includes provider choice and choice of benefits.

type of provision which includes care in cash and in-kind and further divided in home-based and institutional care (Alber, 1995; Damiani et al., 2011; Kraus et al., 2010; Pommer et al., 2009), resources including LTC professionals and bed density (Alber, 1995; Damiani et al., 2011) access (Kraus et al., 2010; Pommer et al., 2009) quality (Damiani et al., 2011). Thus, expenditure data and data on the types of provision seem to be commonly used dimensions, yet, when it comes to resources, accessibility and quality not all use these dimensions. This is a clear limitation. The main reason is the availability of indicators for these dimensions. These are not available in the standard databases of OECD and Eurostat, which are the basis for nearly all typologies (Alber, 1995; Colombo, 2012; Damiani et al., 2011; Kraus et al., 2010) only Pommer et al. (2009) use Share-Data for their typology and are thus the only ones using micro-data for their analysis. Only Kraus et al. (2010) use data which includes the institutional setting and rules for access to the system which are based on the legislative account of the system.

Quantitative indicators are based on the OECD health data (date of extraction 10.12.2018). Missing values have been imputed by using interpolation of values by earlier country values and (mean) growth rate and nearest neighbor imputations[[1]](#footnote-1). For institutional indicators a variety of information from different sources have been coded by the first author. In case of ambiguous information, more information on the indicator has been searched and codings were discussed by all authors of the paper. We excluded Mexico, Turkey and Chile due to too many missing data from the analysis.

The methods of these studies are quite differentThe existing studies are quite weak when it comes to methods. Damiani et al.'s (2011) study uses Multiple factor analysis and principal component analysis and Kraus et al. (2010) use cluster analysis, which is a widely used method to analyse country clusters in welfare state research (Jensen, 2008).

**Results**

**Conclusion**

In many countries high **regional fragmentation** of services/ access to services which we cannot display (Spasova et al., 2018)

Hard to **draw boundaries between systems**: LTC services in total and especially for the elderly are in some countries more and in some countries less integrated with other social systems (mainly the healthcare system), which might lead differences of what is included/ excluded from a LTC system in different countries. This might lead to an inclusion/ exclusion of indicators which are/are not considered to be indicators of the LTC system.

Although in all countries **family and informal migrant LTC** plays a role in LTC, due to the informal nature of these services it is hard to get and integrate comparative indicators. In some countries, LTC systems and services are still in the process of build-up/ expansion, whereas other countries already retrench mature/ institutionalized systems especially in services and eligibility

**The gap between institutional guarantees and actual access to these rights** (e.g. rights of choice, access to services) can be limited (especially in remote areas). This gap between rights and implementation/ provision might be larger in less mature LTC systems and in general larger than in healthcare systems.

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1. For imputed values see table [XXXXXXXXXXX]. [↑](#footnote-ref-1)