



ESPN Thematic Report on Challenges in long-term care

Hungary

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European Social Policy Network (ESPN)

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Contents

- SUMMARY 6
- 1 DESCRIPTION OF THE MAIN FEATURES OF THE COUNTRY’S LONG-TERM CARE SYSTEM(S)..... 7
 - 1.1 General characteristics of policies 7
 - 1.2 Governance and organisation..... 7
 - 1.3 Type of financing..... 7
 - 1.4 Balance between institutional and home care services..... 8
 - 1.5 Cash vs in-kind benefits 8
 - 1.6 Balance between and levels of informal and formal care..... 9
 - 1.7 Evaluation of needs and eligibility criteria 9
- 2 ANALYSIS OF THE MAIN LONG-TERM CARE CHALLENGES IN THE COUNTRY AND THE WAY IN WHICH THEY ARE TACKLED 10
 - 2.1 Challenges in long-term care 10
 - 2.1.1 Access and adequacy challenge 10
 - 2.1.2 Quality challenge..... 11
 - 2.1.3 Employment challenge 11
 - 2.1.4 Financial sustainability challenge 12
 - 2.2 Recent or planned reforms 13
 - 2.3 Policy recommendations..... 13
- 3 ANALYSIS OF THE INDICATORS AVAILABLE IN THE COUNTRY FOR MEASURING LONG-TERM CARE 13
- REFERENCES 17

Summary

After decades of being hidden away in health care or left to a small residential care network, to a largely unprofessional home care system (which suffered badly during the economic transition in the 1990s) or (mostly) to families, long-term care (LTC) for the elderly is still in the process of becoming a separate field of social policy in Hungary.

The two branches – health care and social care – have their own legislation, financing mechanisms and services. They maintain parallel institutional networks in both institutional care and home care. The main providers of social care are local governments and churches (home care, day care and residential care) and the central government (residential care). All providers are financed by the central budget, based on the type and personnel requirements of the services; but they are expected to supplement the amount they get from their own resources and the contributions of recipients.

Despite important steps made recently in the way of integration, the system still preserves a dual structure of health care and social care. A pilot project that was launched in June 2017 will test whether chronic beds and beds in the nursing departments of hospitals could be replaced by special care centres (szakápolási központ), offering limited healthcare services in combination with residential social care. The pilot will establish a new centre in 2018, but the idea is to extend the programme by reallocating existing healthcare capacities to social care.

A comparison of survey information and data on the use of services suggests a gap between need and the public provision of long-term care. Many of those in need either have to buy such services in a largely informal and unregulated market or get help from family (or else have their needs unmet).

Demographic pressure on the demand side of the system will grow significantly only in the late 2030s; however, decreasing cohort sizes of active age will likely create problems in the supply of care provision. The number of people with life expectancy of 5 years or less will grow by 45% between 2016 and 2050. This is a significant increase, but less dramatic than the growth in the size of the population aged 80 years or older: that will practically have doubled by 2050. The growth rate of the oldest old is one of the most frequently used indicators measuring future pressure on the system; however, it does not reflect potential changes in who the oldest old are. The results of the projection of the latest Ageing Report of the European Commission also confirm the view that the main problem of the LTC system in Hungary is unmet need – that is, quality of life in old age, rather than financial sustainability.

1 Description of the main features of the country's long-term care system(s)

1.1 General characteristics of policies

After decades of being hidden away in health care or left to a small residential care network, to a largely unprofessional home care system (which suffered badly during the economic transition in the 1990s) or (mostly) to families, long-term care (LTC) for the elderly is still in the process of becoming a separate field of social policy in Hungary. Despite important steps taken recently toward integration, LTC still preserves a dual structure of health care and social care. Despite major development in home care over the past decade, it remains inadequate, and either places the burden on families or else leaves the needs of older people unmet.

Demographics, though not favourable, still leave some time for preparation. The demographic pressure on the demand side will grow significantly only in the late 2030s; however, decreasing cohort sizes of active age will likely create problems in the supply of care provision.

1.2 Governance and organisation

The two branches – health care and social care – have their own legislation, financing mechanisms and services. They maintain parallel institutional networks in both institutional care and home care.

The main providers of social care are local governments (50% of meals-on-wheels services and home care; 85% of day care; and 40% of residential care – all by the number of recipients in 2016); churches (44%, 11% and 23%, respectively); non-profit organisations (respectively, 3%, 2% and 11%); and the central government (18% of residential care). All providers are financed by the central budget, on the basis of the type and personnel requirements of the service; but they are expected to supplement this amount from their own resources and the contributions of recipients (see further details in Section 2).

The dominant provider of health care in LTC is the central government (86% of chronic beds).

Health care is insurance based, with practically universal coverage. Social care is financed from general taxes.

1.3 Type of financing

Generally speaking, the financial system of public long-term care subsidises the supply. Services are funded directly, and those in need of care do not get cash benefits to buy services. Private insurance schemes are not involved. Operational costs are financed by the Health Insurance Fund (HIF; *Egészségbiztosítási Alap*) for health care and by the government or local governments for social care. In addition, care providers may charge user fees. The exact amount varies from service to service. Formulas for its calculation are set out in the regulations, taking the user's personal income into account. Real estate assets are also part of the income calculation, but other types of assets are not. The maximum fee for residential care is 80% of monthly income; for rehabilitative care it is 50%. In addition, since 2015, providers of residential care have been able to charge a case-dependent one-time admission fee for new users. Its maximum amount is HUF 8 million (about EUR 26,000). At least half of the places in a residential care centre must be free of any admission fee.

Public finances do not cover all the costs of service providers. In 2016, 42% of the operational costs of residential care centres were charged to clients or their families. The amount – HUF 72 billion (EUR 230 million) – was equivalent to about 0.3% of the total

individual consumption expenditure of households. The share of such fees in the budget of care providers has been constantly growing: it accounted for 20% in 1993, passed 30% in 2007 and has stayed at slightly above 40% since 2011 (with a peak of 56% in 2015). The burden on the care recipient in other services is smaller. Only 5% of operational costs of day-care centres are collected from visitors; the corresponding rate for home care and 'meals-on-wheels' catering (combined) is 29% (all rates are calculated from data of the Central Statistical Office, 2017a).

1.4 Balance between institutional and home care services

The services provided under health care are 1) nursing care in nursing departments of hospitals and 2) home nursing care; the three main types of services in social care are home care (including meals-on-wheels services), day care and residential care. In 2016, home care was divided between two distinct activities: provision of personal care (*személyi gondozás*) and social help (*szociális segítség*). The former mostly includes personal hygiene; the latter includes tasks such as maintaining regular personal contact with the client and performing the simplest caring activities. The former requires special training, the latter does not.

Since December 2015, applicants have been evaluated on the basis of 14 different activities, such as independence in daily activities (eating, bathing, dressing, toilet use, continence); following therapy; moving and changing position; mental functions (orientation in space and time, communication, proper behaviour); eyesight and hearing; need of supervision. Ability is measured on a scale of 0-4 points and a formula translates the resulting values to care time. In the last years, this formula has become more restrictive, and a further modification in December 2016 severed the connection between care points and care time. The new rule applies the evaluation procedure only to find whether the potential recipient needs personal care or social help.

The importance of home care has increased rapidly in recent years, since the start of the economic crisis. Whereas residential capacities grew by only 7% between 2008 and 2014 (and another 2 percentage points (p.p.) by 2016), by 2014 the number of home nursing care recipients had risen more than 1.4 times – and the recipients of home care had expanded more than 2.7 times compared to their respective levels in 2008 (see Table 1). In order to contain this expansion, the government cut back on the per capita quota of government contribution in 2013 and tightened the eligibility criteria for new care recipients in 2015. This resulted in a drop in the number of recipients between 2014 and 2016 (by 16 p.p. and 60 p.p., respectively).

Table 1. Dynamics in home care after the economic crisis (2008=100)

	2008	2014	2015	2016
Residents in elderly homes	100	107	109	109
Recipients of home nursing care	100	144	138	128
Recipients of home care	100	276	235	216

Source: Central Statistical Office (2017a).

1.5 Cash vs in-kind benefits

The long-term care system does not offer benefits to recipients to ease access to services. There is one type of cash benefit that supports familial care: the nursing allowance.¹ This can be claimed by relatives who care for a disabled or permanently ill family member. In 2016, a total of about 54,000 people received this benefit. This number includes all cases of caring for disabled or permanently ill relatives: not just elder

¹ In official texts and statistics, it is called either nursing allowance or nursing fee. Here we use the former variant.

care. Only 43% of care recipients who create eligibility for the caring family member are aged 63 years or older; the majority are younger.

Applications, based on the expert opinion of a general practitioner, are evaluated by the local authorities. Depending on the health of the care recipient, an increased nursing allowance may be paid (*emelt összegű ápolási díj*) at 150% of the standard allowance; or, since 2014, an extra nursing allowance (*kiemelt ápolási díj*) may be paid. The amount of the latter is HUF 58,680 (about EUR 190) a month, 180% of the standard nursing allowance (HUF 32,600, or about EUR 105) and it can be paid to care providers if the recipient cannot be rehabilitated (his/her health status falls below the 30% threshold on a 0 to 100 scale applied by those authorities assessing health status) and cannot live without assistance.

The nursing allowance is not means tested and is not indexed. Its level is set annually by Parliament in the budget law. It can be combined with work, for 4 hours a day. No such limit applies if the care provider works from home. The nursing allowance is not time limited. It is terminated if the conditions of eligibility cease to exist (if the health of the recipient improves, or if he/she dies; or if the authorities find the care provider to be failing in his/her duty).

Services in kind will be detailed in Section 2.

1.6 Balance between and levels of informal and formal care

Most LTC activities are left to households or an informal market (see details on needs and public capacities in Section 2).

Empirical evidence shows that relations play an important role in LTC for the elderly in Hungary. The 2011 wave of the European Quality of Life Survey (EQLS11) found that over 88% of respondents aged 65 or over said they would turn to a family member for support if they needed help around the house when they fell ill. This rate was the third highest among Member States, and was higher than in the group of New Member States (81%) or the European Union (EU) as a whole (76%). In contrast, Hungarians do not report turning to institutions at all (the corresponding rate is 9% in the EU and 15% in the three Nordic Member States). Yet, the lack of institutions (or distrust of people therein) does not render the elderly particularly isolated: the rate of those who said they had nobody to turn to was fairly low – 1.5%, the seventh lowest among Member States.

The family responsibilities of children and parents are mentioned in the constitution. Based on this principle, the mandate to support elderly parents (*szülőtartás*) was extended in 2016 by licensing third parties, such as homes for the elderly, to legally force adult children to support their elderly parents financially, e.g. by contributing to the fee for living in a care centre.

The Labour Act allows relatives to go on unpaid leave for a maximum of 2 years for employees who provide personal care for a permanently ill relative (Labour Act 62, §131). Needs have to be confirmed by the healthcare system and the employee has to provide care by him/herself. There are no statistics, either from government, non-governmental organisations or the academic sector, on the frequency and average length of such leave or its cost in terms of lost income. Unpaid leave is full time and it does not generate eligibilities for health care or pensions.

Markets for care activities are to a large extent informal, in that contracts are verbal and consequently unenforceable by law; payments frequently evade taxation and consequently leave the service provider without social insurance.

1.7 Evaluation of needs and eligibility criteria

Need for care is established by a complex assessment process. It is initiated by a general practitioner and carried out by an expert committee appointed by the local notary (in the case of home care); since 1 January 2017, in the case of institutional care, it is conducted by an expert committee of the Budapest Government Office. This

multifunctional administrative centre took over the task from the National Office for Rehabilitation and Social Affairs (*Nemzeti Rehabilitációs és Szociális Hivatal*), which ceased to exist. The criteria are national standards and are binding; but they apply to only a segment of social care, and not at all in health care.

Eligibility for health care is insurance based in principle, but it is nearly universal. In practice, almost every citizen holds a social insurance card, which is the condition for access to health care.

2 Analysis of the main long-term care challenges in the country and the way in which they are tackled

2.1 Challenges in long-term care

2.1.1 Access and adequacy challenge

Difficulties with activities of personal care or household chores can be estimated from the Central Statistical Office's annual income survey (part of the EU-SILC comparative survey) and the Hungarian leg of the European Health Interview Survey (EHIS). In total, in the 2014 wave of EHIS, 33% of respondents aged 65 and over reported difficulties with personal care activities (Table 2). This is about 590,000 people. Household activities created problems for 57% (1,020,000 persons). As is to be expected, the frequencies are higher in older age groups: in the 75+ age group, 47% are limited in personal care and 73% in household activities. Severe difficulties with personal care affected about 200,000 people (11% of the 65+ age group); in household activities, the corresponding figure was about 590,000 (33%).

Table 2. Difficulties with activities in old age, 2014, % of respondents

	65+	75+
Difficulties with personal care activities [hlth_ehis_pc1e]		
Moderate or severe	33	47
Severe	11	17
Difficulties with household activities [hlth_ehis_ha1e]		
Moderate or severe	57	73
Severe	33	51

Source: Calculations are based on the EHIS wave 2 (Eurostat). Codes in brackets are Eurostat codes for the respective questions.

Unit costs of both residential and home care are low in European terms. The quota of government support to service providers for residential care is HUF 651,510 per care recipient per annum, unchanged since 2013 (currently about EUR 2,100). The corresponding figure for social help is HUF 25,000 (EUR 80) and for personal care HUF 210,000 (EUR 680), also annual amounts.

In 2016, 10.2% of the 65+ population received either home nursing care (2.3%), home care (5.2%) or residential care (2.7%) (see Table 3). Even simpler and cheaper services, such as meal provision or alarm system-based assistance reached only 7.1% and 1.7%, respectively, of the reference population. The rest either have to buy such services at market prices or get help from family (or else do without).

Table 3. Basic capacities of the long-term care system for the elderly

	total	per 100 residents	per 100 65+ residents
Health care			
Chronic beds	26 542	0.3	
<i>of which lasting care</i>	2 836		0.2
Home nursing care patients	56 780	0.6	
<i>of which 65+</i>	41 377		2.3
Social care			
Home care recipients	103 780		
<i>of which 65+</i>	92 869		5.2
Meals on wheels recipients	173 876		
<i>of which 65+</i>	128 233		7.1
Alarm system-based home assistance	38 560		
<i>of which 65+</i>	30 355		1.7
Attendees of day care for elderly	20 568		
<i>of which 65+</i>	38 560		2.1
Residents of homes for the elderly	54 239		
<i>of which 65+</i>	49 212		2.7
Home care nurses, total	12 294		
Unit cost of residential care (% of per capita GDP)	18.1		
Unit cost of home care (% of per capita GDP)	4.0		

Sources: Central Statistical Office (2017a; 2017b).

2.1.2 Quality challenge

Over 90% of nurses in the formal sector of home care have special qualifications for the job. An average nurse serves 8.4 clients. The number of nurses in residential care is 24,000, but this number includes all types of residential centres, not just homes for the elderly. Qualification rates are similar to those of home care (88%); the number of clients per nurse is 3.8. Wages are low, even by Hungarian standards: the average net monthly wage in the social sector was slightly above HUF 88,000 in the first 11 months of 2017 (EUR 280), or 45% of the national average wage, making it the least well-paid sector.

Training for family members who provide care would improve the quality of private home care. However, such courses are held sporadically and are hard to find.

Within the framework of the ANCIEN project (<http://www.ancien-longtermcare.eu/>) Dandi et al. (2012) found that the Hungarian quality-assessment system in LTC is based on input and process definitions and indicators in the formal care. This groups the country with Austria, Finland and Spain; other countries have systems that are based on output indicators or have no quality assessment at all. The informal care system, however, is largely unregulated and unassessed.

2.1.3 Employment challenge

As mentioned above, much of the need for LTC has to be met by family networks. In Hungary (as in most other countries), the bulk of such responsibilities falls on women. While child care is probably a more frequent reason among women generally for taking part-time employment or for not seeking employment at all, looking after incapacitated

adults or fulfilling other caring responsibilities are both common reasons for inactivity among women who are of an age when they no longer have small children (see Table 4). Among economically inactive women in the 15-39 age group (i.e. in the age group of those who have small children but not yet ailing parents), more than a third gave one of those two reasons for not looking for paid work. Among 40-59-year-olds, the rates are still 21% and 24%, respectively. Over the age of 50, the proportions are lower, mostly because these cohorts can already seek ways of retiring early.

The corresponding rates among men (not shown in the table) are much lower.

Table 4. Caring activities as obstacles to employment or economic activity among women

	15-39	40-59	50-59	50-64
Main reason for part-time employment (%)				
Looking after children or incapacitated adults	22	10	n.a.	n.a.
Main reason for not seeking employment, inactive population (%)				
Looking after children or incapacitated adults	35	21	9	4
Family/caring responsibilities	36	24	11	5

Source: Eurostat database (*lfsa_igar*, *lfsa_epgar*).

LTC has the capacity to create tensions not only in the supply of female labour in general, but also in the supply of professional care work. In the absence of systematically collected data, we have to rely on anecdotal evidence here: this suggests that the local supply of carers is inadequate – not least because Hungarian care workers tend to migrate to richer Member States, particularly Austria, Germany and the UK. While Hungary exports labour, it also imports care workers mostly from the ethnic Hungarian communities of Romania and Ukraine.

2.1.4 Financial sustainability challenge

In Table 5, we present the results of a simple projection exercise, based on the medium population projection of Eurostat. The calculation sets the age (by gender) and number of people with 5 years of remaining life expectancy (denoted as LEXP5 in the table). The limit of 5 years is based on the rule of thumb that people need assistance in daily activities in the last 5 years of their lives. Due to an improvement in mortality in older ages, the age contour (or characteristic age, as Sanderson and Scherbov, 2010, call it) is expected to grow by 3.7 years for women and 3.8 years for men over the 34 years between 2016 and 2050. The number of people with 5 years of life expectancy will grow by 45% over these years – from 125,000 to 180,000. This is a significant increase, but it is more modest than the growth in the size of the population aged 80 or over. As the bottom two rows of Table 5 show, this age group will practically double by 2050. The growth rate of the oldest old is one of the most frequently used indicators of the expected future pressure on the LTC system; however, it does not reflect potential changes in who the oldest old are.

Table 5. Age and number of people with 5 years' remaining life expectancy, 2016-2050

	2016	2020	2030	2040	2050
LEXP5, age of men	85.5	86.0	87.3	88.5	89.3
LEXP5, age of women	87.3	88.0	89.0	90.0	91.0
LEXP5, number of people, '000	125	126	131	156	180
LEXP5, number of people, %, 2016=100	100	101	105	125	145
80+, number of people, '000	421	447	587	779	820
80+, number of people, %, 2016=100	100	106	139	185	195

Source: Author's calculation based on Eurostat data (*proj_15nalexp*, *proj_15npms*).

Note: LEXP5 5 years' remaining life expectancy. 80+: people aged 80 years or older.

As for expenditure, in its latest Ageing Report (European Commission, 2015) the European Commission expects an increase in public LTC spending from 0.8% of GDP in 2013² to 1.2% in 2060. Under various demographic scenarios, the projected figure varies between 1.0% and 1.3%. If all else remains unchanged, but there is a gradual increase in the share of the disabled population receiving formal care (shift to formal care scenario), then the expected spending in 2060 would be 1.9% of GDP; if the probability of receiving any kind of formal care reaches the level of the EU-28 average, expenditure would grow to 3.5% of GDP; and if this convergence is combined with the convergence of costs to the European average, public LTC would consume 5.5% of economic output.

The results of the projection confirm the view that the main problem of the LTC system in Hungary is unmet need – that is, quality of life in old age, rather than financial sustainability. Demography alone would explain a modest increase in future spending. It is adequacy of the system that would really cost.

2.2 Recent or planned reforms

A pilot project that was launched in June 2017 will test whether chronic beds and beds in the nursing departments of hospitals could be replaced by special care centres (*szakápolási központ*), offering limited healthcare services in combination with residential social care. The pilot will establish a new centre in 2018, but the idea is to extend the programme by reallocating existing healthcare capacities to social care.

2.3 Policy recommendations

Despite important developments over recent years – especially in the home care network – LTC capacities for the elderly remain inadequate. Workers in the sector are poorly paid, even if conditions have improved in recent years as part of the general wage growth in the economy. The boom in home care has been seen by experts more as an effort to create jobs and at the same time achieve a collateral improvement in the quality of life of the elderly, rather than as a proper social investment. This view is supported by the observation that services improved particularly rapidly in categories of settlement (e.g. villages, towns) that experienced a tight labour market during the crisis years and cuts in public finances after the crisis was over.

The need for LTC services is not properly mapped. Public spending is guided more by the supply side and less by demand. When resources allow – or, as mentioned above, when other policy targets correspond with the interests of the LTC sector – services improve. Since long-term care is still on its way to becoming a separate field of social protection, the attitude of the authorities is still that of the helper, rather than the investor. Government helps out families and individuals as much as it can, but it does not consider LTC as a social investment in liberating the labour force (mostly women).

Nor are LTC services planned for the long run. The conditions for accumulating reserves for the last, ailing period of life are not favourable. Nor has the insurance market been prepared to offer products for future long-term care costs.

3 Analysis of the indicators available in the country for measuring long-term care

The main source of public information on LTC is the annual Yearbook of Welfare Statistics and Yearbook of Health Statistics of the Central Statistical Office (CSO), as well as the CSO homepage for mid-year statistics. The yearbooks contain tables by type of service; type of service provider; data by region and settlement type; number of recipients by

² It has to be noted that the ECFIN-AWG projection applies a different definition of LTC spending than the OECD. In the previous Ageing Report (European Commission, 2012) the point of departure, 0.8% of GDP in 2010, the same as in the new report, is only 0.3% in 2008 in the OECD analysis of LTC systems (Colombo et al., 2011).

age and gender; and expenditure and revenue. The data content of the two types of yearbooks relevant here is summarised in Table 6.

Table 6. Data content of the Statistical Yearbooks of Welfare Statistics and Health Statistics relevant for long-term care

	broken down by	years available	table
Home nursing care (all age groups)			
number of care recipients	total	2000-2016	H 3.01
	type of service	2000-2016	H 3.01
	age group	2006-2016	H 3.08
	gender	2006-2016	H 3.08
	DRG code	2006-2016	H 3.03
	NUTS2 region	2006-2016	H 3.11
	NUTS3 region	2006-2016	H 3.11
number of cases	total	2000-2016	H 3.01
	type of service	2000-2016	H 3.01
	DRG code	2006-2016	H 3.03
	age group	2006-2016	H 3.09
	gender	2006-2016	H 3.09
	NUTS-2 region	2006-2016	H 3.13
	NUTS-3 region	2006-2016	H 3.13
number of visits	total	2000-2016	H 3.01
	type of service	2000-2016	H 3.01
	DRG code	2006-2016	H 3.03
	age group	2006-2016	H 3.10
	gender	2006-2016	H 3.10
	NUTS-2 region	2006-2016	H 3.15
	NUTS-3 region	2006-2016	H 3.15
Home care			
number of care recipients	total	1995-2016	S 8.01
	gender	1995-2016	S 8.01
	per ten thousand 60+	1995-2016	S 8.01
	rate paying cost contribution	1995-2016	S 8.01
	NUTS-2 region	1995-2016	S 8.04
	NUTS-3 region		S 8.29
	type of provider		S 8.06
	size of settlement of service		S 8.07
	size of settlement of recipient		S 8.08
	age group		S 8.28
number of nurses	total	1995-2016	S 8.02
	by type of employment	1995-2012	S 8.02
	type of provider		S 8.06
	size of settlement of service		S 8.07
	size of settlement of recipient		S 8.08
	NUTS-2 region		S 8.29
	NUTS-3 region		S 8.29
contributions by recipients*	total	1993-2016	S 8.27
costs of operation*	total	1993-2016	S 8.27
Meals-on-wheels service			
number of recipients	total	1995-2016	S 8.03
	gender	1995-2016	S 8.03
	per ten thousand 60+	1995-2016	S 8.03
	rate paying cost contribution	1995-2016	S 8.03
	NUTS-2 region	1995-2016	S 8.05
	NUTS-3 region		S 8.30
	type of provider		S 8.06
	size of settlement of service		S 8.07

	size of settlement of recipient		S 8.08
	age group		S 8.28
contributions by recipients*	total	1993-2016	S 8.27
costs of operation*	total	1993-2016	S 8.27
Alarm system-based home assistance			
number of recipients	total		S 8.09
	type of provider		S 8.09
	size of settlement of service		S 8.10
	size of settlement of recipient		S 8.11
	age group		S 8.28
	NUTS-2 region		S 8.31
	NUTS-3 region		S 8.31
Day care for the elderly			
number of units	total		S 8.19
	NUTS-2 region		S 8.19
	type of provider		S 8.20
number of places	total		S 8.21
	NUTS-2 region		S 8.21
	type of provider		S 8.22
number of care recipients	total		S 8.25
	NUTS-2 region		S 8.23
	type of provider		S 8.24
	recipients paying cost contribution		S 8.25
	age group		S 8.28
number of nurses	total		S 8.25
	number of qualified nurses		S 8.25
contributions by recipients	total	1993-2016	S 8.27
costs of operation	total	1993-2016	S 8.27

Notes: Tables H: tables from health statistics; Tables S: tables from social statistics.

*: data on home care and meals-on-wheels services are inseparable.

The Central Electronic Registry of Service Recipients (KENYSZI by its Hungarian acronym) contains administrative information on public spending on care recipients. So far, this database has not been open to researchers.

The guideline for this report asked about potential LTC-related indicators that can be calculated from Eurostat data. The concept of characteristic age (Sanderson and Scherbov, 2010; 2013) could be useful here. A frequent problem in age-related analyses, especially in cross-country comparisons or longitudinal calculations, is the rigidity of demarcation ages between sections of the life cycle, such as the frequently used age of 65 years as the start of old age, even though it is obvious that old age does not everywhere start at age 65; it did not always start where it starts today; and most likely it will not start there in the future.

Characteristic age is a general framework that translates various characteristics of people to years of age. Such characteristics can vary over a wide range of frequently used measures of population ageing, including variants of remaining life expectancy, such as prospective old-age thresholds (the average age of a social group at which remaining life expectancy is a given threshold of years, usually 15, though in Section 2 above we used 5 years). The translation procedure requires two characteristic schedules. Average chronological ages of various social groups in a fixed age-specific characteristic schedule are related to chronological ages, called alpha ages, in another, variable characteristic schedule. With some simplification, this re-mapping creates iso-age contours by selecting the age equivalents of chronological ages in the variable characteristic schedule. Fixed schedules can be as different as some demographic characteristics of a reference group, such as one of the two genders, a nation, a group with a given level of education or a group in a given year; or a pre-set remaining life expectancy. Variable schedules can be

cross-country differences; changes over time; differences by age within one social group; or variation by the level of education.

Sanderson and Scherbov (2017) collect a number of striking examples. Whereas the 15-year prospective old-age threshold increased rapidly between 1960 and 2010 in East Asia (by nearly 12 years in China and nearly 11 years in Japan), the mortality crisis in Russia resulted in stagnation. In more colloquial language, 66 was the new 54 in China; 73 was the new 62 in Japan; but 64 remained 64 in Russia, if old age was defined as the age when remaining life expectancy is 15 years.

This method can be applied in an indicator of needs for LTC. If we use 5 years of remaining life expectancy (LEXP5, as it was denoted above) as a fixed schedule (indicating potential need for LTC services) we can compare various social groups – such as the two genders – or countries, or the same country over time by the age when the social group in question reaches the point of 5 years' remaining life expectancy. In Section 2 above, we compared the ages of Hungarian women and men at various points in time with this indicator. Referring to the colloquial language mentioned above, for Hungarian women 91 will be the new 87 in 2050 when it comes to the age at which they need LTC services. Such age contours can be quickly calculated from Eurostat data using the *proj_15nalex* variable. In addition, based on such shifting demarcation ages between the old and the oldest old, a more reliable number of people in need of long-term care can be derived. This can also be calculated easily from the Eurostat database (variable *proj_15npms*).

References

- Central Statistical Office (2017a), *Yearbook of Welfare Statistics, 2016*. Budapest: Central Statistical Office.
- Central Statistical Office (2017b), *Yearbook of Health Statistics, 2016*. Budapest: Central Statistical Office.
- Colombo, Francesca et al. (2011), *Help Wanted? Providing and Paying for Long-Term Care*. Paris: OECD.
- Dandi, Roberto et al. (2012), Long-term care quality assurance policies in European countries, ENEPRI Research Reports 111, Brussels, ENEPRI.
- European Commission (2012), The 2012 Ageing Report: Economic and budgetary projections for the 27 EU Member States (2010-2060), European Economy 2.
- European Commission (2015), The 2015 Ageing Report: Economic and budgetary projections for the 28 EU Member States (2013-2060), European Economy 3.
- Sanderson, Warren C. and Scherbov, Sergei (2010), Remeasuring aging. *Science*, 329 (5997/2010), 1287-1288.
- Sanderson, Warren C. and Scherbov, Sergei (2013), The characteristics approach to the measurement of population aging. *Population and Development Review*, 39 (4/2013), 673-685.
- Sanderson, Warren C. and Scherbov, Sergei (2017), A unifying framework for the study of population aging. *Vienna Yearbook of Population Research*, 14, 7-39.

