

# Long-term Care in Germany

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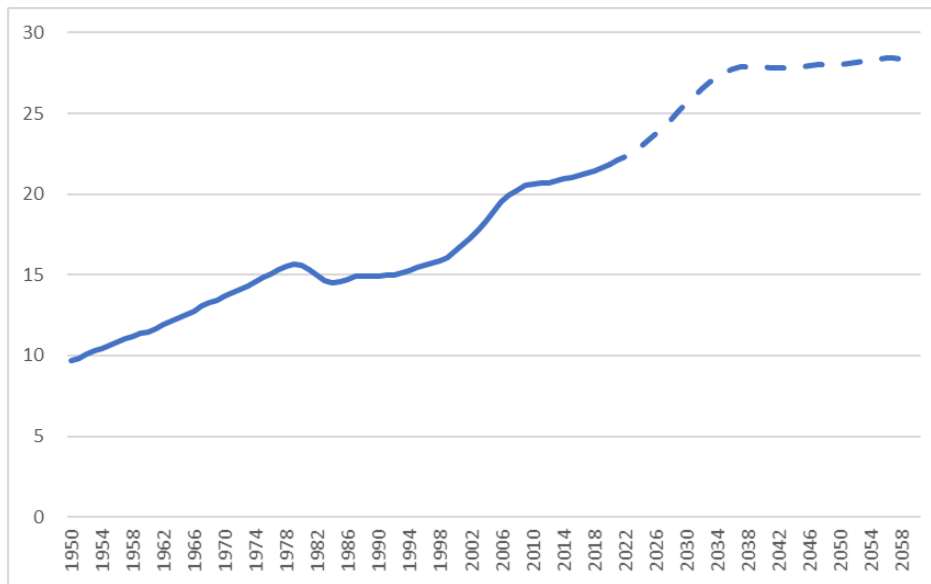
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## **Introduction**

A constant increase in life expectancy and persistent low fertility rates since the 1970s explain why the population in Germany is amongst the oldest in the world. Germany will continue to see a strong increase in the share of people aged 65 and older (Figure 1); among them, the increase of the share of those aged 85 or older is even more dramatic (Figure 2). In the international context, these numbers are striking. For example, the share of population older than 65 is predicted to be close to 30% in Germany by 2060 while the comparable number for the United States is less than 25%. The difference between the two countries is similar for the group of individuals aged 85 and older.

The ageing of the society challenges the organization of the welfare state. Amongst others it has important consequences for the financing and the provision of long-term care. The demand for care provision is strongly increasing with age. This is documented in Table 1 which shows the increasing age pattern of the share of individuals with at least one limitation in activities of daily living. Additionally, the data show that the number of limitations is strongly determined by age. Thus, demand for long term care is increasing. At the same time the working population is declining. This has severe consequences for the supply of long-term care at home and in nursing homes as well as for ambulatory care alongside the supply for informal care by family members and friends. Increasing employment rates and a later retirement age crowd out informal care provision since it is difficult to reconcile employment and long-term care provision. For Germany, a reduction in the supply of informal care provision has important implications for overall care provision as informal care provision is the most common care mode and the most popular care mode.

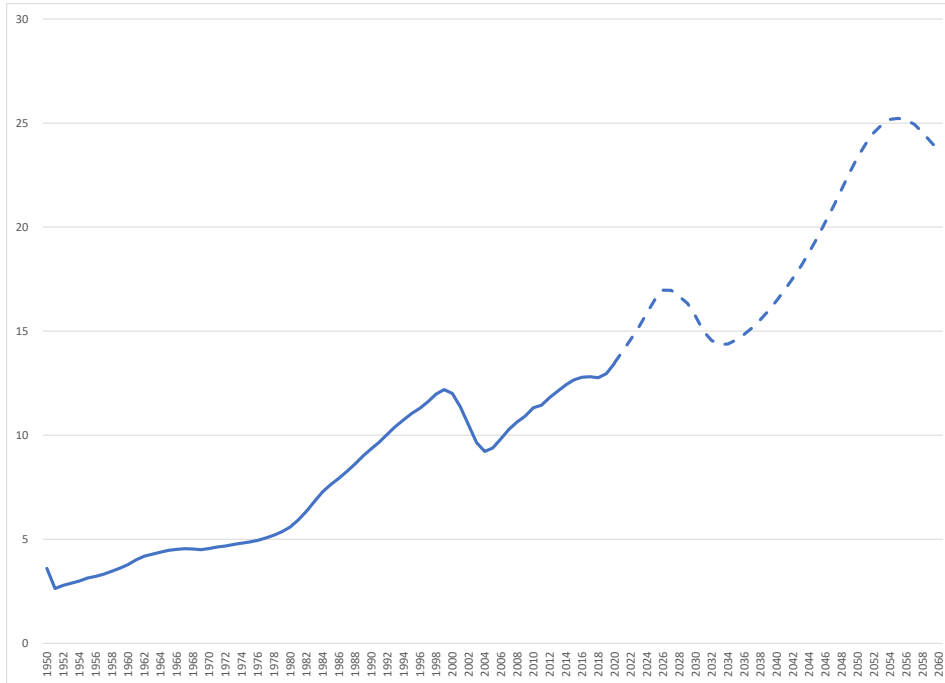
Figure 1: Percentage of population aged 65 or older (1950-2060), 2020



Source: OECD Stat. <https://stats.oecd.org/Index.aspx?DataSetCode=POPPROJ#>

To better understand the challenges of an ageing society for the long-term care system in the next decades, this chapter provides an overview about the current state of long-term care and the long-term care system in Germany. The main empirical data sources for our analysis are the Survey of Health and Retirement (SHARE) and the Socio-Economic Panel Study (SOEP); both provide representative household data with relevant demographic and socio-economic information. In the first part, we provide a distributional analysis and show how income and wealth vary with the limitations of daily activities and well-being. In the second part, we present the institutional framework of long-term care and how long-term care is organized in Germany. Finally, we turn to the financial implications of long-term care. Importantly, in this analysis, we not only consider the direct financial costs of formal care provision but also the sizable indirect costs of informal care provision by applying different approaches to value the opportunity costs of informal care and the time spent in informal care.

Figure 2: Percentage of 65+ population that is aged 85 or older, 1960-2060



Source: OECD Stat. <https://stats.oecd.org/Index.aspx?DataSetCode=POPPROJ#>

## Part 1: Care Needs, Well-Being, and Cost of Care

### *Sample and definitions*

The main empirical data sources for our analysis are the Survey of Health and Retirement (SHARE) (Börsch-Supan et al. 2013) and the Socio-Economic Panel Study (SOEP) (Goebel et al. 2019), which are both representative household data with relevant demographic and socio-economic information.

SHARE is a cross-national longitudinal panel data set with information covering 28 European countries as well as Israel. The data include information about individuals aged 50 or older and their spouses of any age. In Germany, the sample frame of SHARE covers private households and individuals living in institutions if they are registered at the address of such institutions. Moreover, SHARE follows respondents who have been sampled in the community when they move to retirement and nursing homes. If not

otherwise stated, these individuals are included in the calculations. SHARE data collection started with Wave 1 in 2004, followed up by panel waves every second year. Fieldwork for Wave 8 in 2020 was disrupted due to the COVID-19 pandemic with a corresponding delay in the publication of the latest survey wave, which was released in 2022 together with two telephone-administered waves mainly focused on the effects of the pandemic. Fieldwork for Wave 9 was finished in September 2022. Currently 8 panel waves of SHARE plus two telephone waves are available. The following analysis mainly uses pooled data from SHARE waves 6 and 7 corresponding to interview years 2015 and 2017, respectively. In addition, we use information from the first and second wave of SHARE, which includes information on how many hours of formal and informal care were received.

*Table 1: Share with ADLs or IADLs by Age, 2015/17*

# of limitations in ADL	65+	85+
0 ADLs & 0 IADLs	0.721	0.397
0 ADLs & 1+ IADLs	0.094	0.180
1 ADL	0.087	0.127
2 ADLs	0.040	0.134
3 ADLs	0.023	0.054
4 ADLs	0.012	0.014
5 ADLs	0.010	0.028
6 ADLs	0.014	0.066
Any ADL	0.186	0.430
Any IDAL	0.235	0.584

Note: Pooled data from SHARE waves 6 & 7. Weighted data. ADLs include walking across room, dressing, bathing, eating, going to bed, and using the toilet. IADLs include using a map to figure out how to get around in a strange place, preparing a hot meal, shopping for groceries, making telephone calls, taking medications, doing work around the house or garden, managing money, such as paying bills, keeping track of expenses, leaving the house independently and accessing transportation services, and doing personal laundry.

Source: SHARE (doi: 10.6103/SHARE.w6.800 & doi:10.6103/SHARE.w7.800)

The health of individuals is defined by information about limitations related to six Activities of Daily Living (ADLs) and nine Instrumental Activities of Daily Living (IADLs). ADLs are defined as: dressing, bathing, eating, toileting, getting in and out of bed, and

walking across a room. IADLs include: using a map to figure out how to get around in a strange place, preparing a hot meal, shopping for groceries, making telephone calls, taking medications, doing work around the house or garden, managing money, such as paying bills, keeping track of expenses, leaving the house independently and accessing transportation services, and doing personal laundry. Survey respondents report with which of the listed ADLs and IADLs they have difficulties with. SHARE then asks if respondents receive care for: “personal care, i.e. dressing, including putting on shoes and socks bathing or showering eating, e.g. cutting up your food getting in or out of bed, using the toilet, including getting up or down; or practical household help, e.g. with home repairs, gardening, transportation, shopping, household chores; or help with paperwork, such as filling out forms, settling financial or legal matters.” All SHARE variables about formal and informal care received that are used in this chapter are based on these questions.

*Table 2: Distribution of Limitations with Specific ADLs/IADLs*

	65+ All	65+ Conditional	85+ All	85+ Conditional
<i>Panel 1- IADLs:</i>				
IADL – Use a Phone	0.029	0.124	0.104	0.185
IADL – Manage Money	0.057	0.247	0.201	0.358
IADL – Take Meds as Prescr.	0.044	0.193	0.160	0.285
IADL – Shop for Groceries	0.112	0.486	0.377	0.670
IADL – Prepare a Meal	0.066	0.287	0.232	0.412
IADL - Using a map	0.082	0.355	0.241	0.429
IADL - Work in garden	0.174	0.752	0.425	0.757
IADL - Leave the house	0.114	0.495	0.372	0.662
IADL - Doing laundry	0.087	0.376	0.309	0.550
<i>Observations</i>	4,623	891	367	199
<i>Panel 2- ADLs:</i>				
ADL – Use the Toilet	0.044	0.239	0.114	0.280
ADL – Get Dressed	0.133	0.724	0.315	0.772
ADL – Take a Bath	0.110	0.599	0.318	0.779
ADL – Walk Across a Room	0.035	0.192	0.107	0.261
ADL – Eat	0.041	0.224	0.131	0.321
ADL – Get In/Out of Bed	0.047	0.258	0.122	0.300
<i>Observations</i>	4,623	707	367	140

Note: Pooled data from SHARE waves 6 & 7. Weighted data. Column 1 shows the share of the sample that report having difficulty with each activity, while Column 2 shows the share of people with at least 1 IADL (panel 1) or at least 1 ADL (panel 2) who report having difficulty with each activity.

Source: SHARE (doi:10.6103/SHARE.w6.800 & doi:10.6103/SHARE.w7.800)

The SOEP is a longitudinal dataset collected every year since 1984, covering a representative sample of German households. It includes an individual questionnaire for the inhabitants of surveyed households and, therefore, offers a rich set of household and individual specific information. For the following analysis, wave 36 is used, containing information from 1984 until 2019. SOEP only covers private households, therefore excluding individuals living in institutions. An exception to this are individuals who were already part of the SOEP and subsequently moved into an institution. These individuals initially remain part of the SOEP but the sample size is negligible and sample attrition very high. Therefore, only information from individuals living in private households was used. In the second part, some statistics are derived from the health ministry and/or the national institute for statistics. These tables and figures use a different definition of long-term care, which correspond most of the time to all help financed by the social services, public insurance, and private insurance. For these statistics, notes will systematically clarify the definition of long-term care.

Limitations in ADLs and IADLs increase strongly with age. As shown in Table 1, more than two thirds of the population aged 65 and older report no limitations in ADLs or IADLs. Only about 10% of those individuals report difficulties in at least two ADLs, and about 6% have difficulties with three and more. These numbers nearly triple for individuals aged 85 and older, highlighting the increased dependence on support from others with an increasing age. For this age group, only 40% report no limitations in ADLs or IADLs.

With respect to IADL, limitations are most frequent in categories like “work in the garden,” “leave the house,” and “shop for groceries” (Table 2). Conditional on having one or more IADLs, these shares increase strongly. With respect to ADLs, limitations in “get dressed” or “take a bath” are most frequent. Conditional in having at least one limitation



in ADLs, the share of people reporting difficulties in these categories increases to between 60 and 78%.

### *Well-Being*

In Table 3 we report different measures of well-being by age and number of limitations. Generally, well-being is significantly lower for people with three and more limitations: Individuals aged 65 and older as well as those aged 85 and older have about 10 percentage points higher risk of poverty if they have more than three limitations as compared to the average poverty risk in their age group. As expected, self-reported health deteriorates with age and is drastically worse among individuals who report three or more limitations. The measures of life satisfaction, loneliness, and depression point in the same direction. Interestingly, individuals with more than three limitations who are aged 85 and older report a better health status than the comparison group of individuals aged 65 and older who also have more than three limitations.

*Table 3: Well-Being for those 65+ and 85+ by ADL Limitations*

	65+	65+ with 3+ lim.	85+	85+ with 3+ lim.
Poverty risk	0.167	0.281	0.237	0.334
Self-Report of Health – Good/Very good/excellent	0.488	0.096	0.311	0.137
Life satisfaction (0-10)	7.83	6.94	7.71	7.31
Depression (Euro-D scale > 4)	0.252	0.558	0.368	0.594
CASP	38.8	33.1	36.9	33.5
Loneliness (3-9)	3.83	4.55	4.08	4.39

Note: Pooled data from SHARE waves 6 & 7. Weighted statistics. ADLs include walking across room, dressing, bathing, eating, going to bed, and using the toilet. IADLs include using a map to figure out how to get around in a strange place, preparing a hot meal, shopping for groceries, making telephone calls, taking medications, doing work around the house or garden, managing money, such as paying bills, keeping track of expenses, leaving the house independently and accessing transportation services, doing personal laundry. Poverty risk is measured using the square root of household size. Euro-D scale measures depression, from 0 “not depressed” to 12 “very depressed;” The attainment of a scale score of 4 or higher is categorized as “case of depression” and a scale score below 4 as “not depressed.” CASP is a measure of quality of life. The resulting score is the sum of 12 items, and ranges from 12 to 48. A high score indicates high quality of life. The Three-Item Loneliness Scale (Hughes et al. 2004) is a short version of the R-UCLA Loneliness Scale (Russel et al. 1978). It measures indirect loneliness. The three items companionship, left out, and isolated are answered on a three-point Likert scale (“often,” “some of the time,” “hardly ever or never”). The minimum of the resulting score is 3 (“not lonely”) and the maximum is 9 (“very lonely”). The literature does not provide an indication of a threshold which categorizes “lonely” and “not lonely.” For more details on these scales and operationalization in SHARE, see Mehrbrodt et al. (2019). The number of observations varies

across items, the lowest number is 71 for the item “Loneliness (3-9)” and people aged 85+ with three and more limitations in ADLs. Most cells have well more than 100 observations.

Source: SHARE (doi: 10.6103/SHARE.w6.800 & doi:10.6103/SHARE.w7.800)

In Table 4 we focus on the distribution of available income and wealth by age. This is indicative of the distributional implications of the health status of individuals. Available income is weighted using the modified OCED equivalence scale while wealth data from SOEP are collected on the individual level.

The data show that income of the lower 10% of the sample does not differ between age groups. A possible explanation is that these households rely more strongly on means tested government programs which that minimum income. In the upper income percentiles, the income of age group 85+ is lower. For example, the median is almost 3% lower and the 95th percentile almost 15% lower. One reason for this difference in income is a higher share of single women (often widows) in the older age group. Compared to other OECD countries, income inequality is roughly at the mean level of inequality (OECD 2019, p. 190f). The percentile ratio P90/P10 is at 3.3 (65+) and 2.9 (85+). The percentile ratio P50/P10 is at 1.8 (65+) and 1.7 (85+).

The wealth distribution shows similar differences between both age groups. The lower 10% have zero wealth whereas median wealth is at 72,283 euro for the age group 65+ and nearly 50,000 for people aged 85 and over. Wealth levels are between 6% and 32% lower in the percentiles of the older age group. In line with the literature wealth is more unequally distributed than income with 10% of individuals in both age groups reporting no wealth at all.<sup>1</sup>

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<sup>1</sup> Using SOEP data from 2012, Geyer (2015) finds similar result: Households with a care dependent member have similarly high household incomes as households in which no person in need of care lives. However, the income share of public transfers is higher in households with a care dependent member. In addition, their wealth is significantly lower than that of households without members in need of care.

Table 4: *Income and Wealth Distribution, 2019/2017*

	Available equivalized income (in euro per year)		Wealth (in euro)	
	65+	85+	65+	85+
5th Percentile	10,060	10,060	0	0
10th Percentile	12,182	12,201	0	0
25th Percentile	16,403	15,893	5,164	4,627
50th Percentile	21,475	20,853	72,283	49,370
75th Percentile	29,196	27,517	198,442	187,845
90th Percentile	39,710	34,840	368,240	320,827
95th Percentile	47,519	40,471	565,478	493,696
Mean	24,747	23,027	165,120	139,385
Observations	5,362	391	5,785	442

Note: Equivalized net household income (OECD modified scale); without imputed rent. Income data from 2019. Only private households. Respondent weights are included in all calculations. SOEP collects wealth data on the individual level. Wealth data from 2017; adjusted to 2019 euros. Respondent weights are included in all calculations.

Source: SOEPv37

Table 5 reports the income distribution for those aged 65 and older as a percentage of within-sample median income of individuals by the number of ADLs with which they report having difficulties. Note that the number of observations declines with age and number of limitations in ADLs, thus reducing statistical precision. Nonetheless, individuals in the lower income bracket show higher shares of limitations in ADLs. Therefore, wealth and income are both highly unequally distributed in Germany, with the inequality growing even stronger by the health status of individuals.<sup>2</sup>

<sup>2</sup> Geyer et al. (2021) show that long-term care risk is negatively correlated with income and higher occupational status.

*Table 5: Income and Wealth Distribution by Limitations for 65+ Population*

	0 ADLs & 0 IADLs	0 ADLs & 1+ IADLs	1 ADL	2 ADLs	3+ ADLs	Total
<i>Panel 1: Income</i>						
<50% Median HH Income	0.072	0.082	0.120	0.205	0.225	0.092
50-100% Median HH Income	0.446	0.524	0.557	0.641	0.498	0.472
100-150% Median HH Income	0.307	0.258	0.214	0.080	0.181	0.278
150-200% Median HH Income	0.100	0.072	0.064	0.024	0.076	0.090
200%+ Median HH Income	0.076	0.065	0.044	0.050	0.020	0.068
Total	0.746	0.062	0.090	0.041	0.061	1.000
Number of Observations	3.432	257	348	141	209	4.387
<i>Panel 2: Wealth</i>						
Below Median HH Wealth	0.459	0.483	0.621	0.758	0.690	0.501
100-200% Median HH Wealth	0.184	0.198	0.112	0.115	0.085	0.170
200%+ Median HH Wealth	0.357	0.320	0.267	0.127	0.224	0.329
Total	0.740	0.069	0.091	0.037	0.063	1.000
Observations	1,712	142	175	65	107	2,201

Notes: Pooled data from SHARE waves 6 & 7. Weighted statistics. ADLs and IADLs include the items shown in Table 2. The median is roughly 21,780 euro per year for (equivalized) net income and 69,974 euro for per capita wealth when adjusted to 2019 euros. Weighted income using square root of household size. Wealth data are from wave 6.

Source: SHARE (doi:10.6103/SHARE.w6.800 & doi:10.6103/SHARE.w7.800)

In the next section we provide a brief overview of the German long-term care system and describe ways how public insurance supports care recipients and caregivers, as well as the types of services it offers. This part will rely strongly on public statistics on labor, health, and social care provided by the German administration.

## **Part 2: LTC System in Germany**

Administrative data from public long-term care insurance include a specific definition of LTC that differs from general LTC measures commonly used in surveys such as SHARE or SOEP. Obviously, there is an overlap since eligibility for public care benefits requires – among other things – substantial limitations in ADL and IADL. However administrative statistics do not include data on people who are not eligible to benefits from public insurance but only those eligible who claim for benefits. Moreover, these data cover the population living in nursing homes which are often not sampled representatively in

surveys. Some statistics cover the whole cost of care, with a broad definition; some others are specific to costs included in the care insurance benefit, which is the main system to help elderly with disability. This section also provides information about private long-term care insurance, even if it represents only a small share of the population coverage against disability risk.

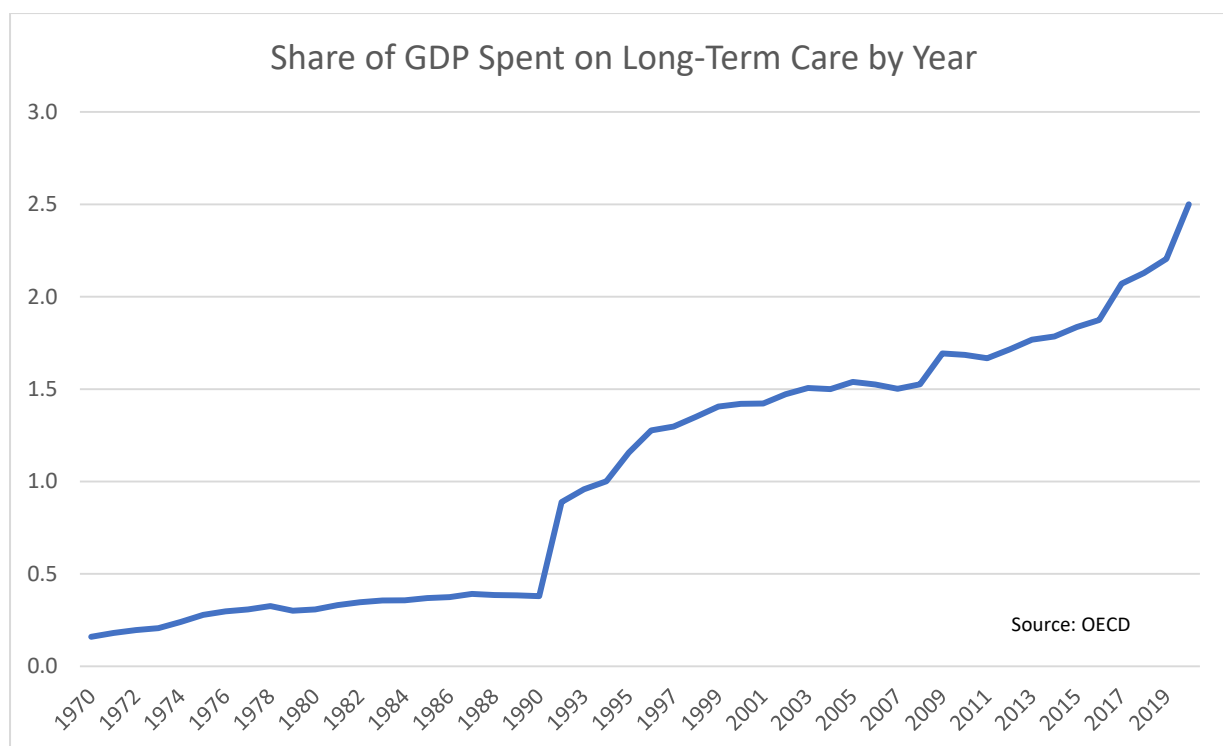
### *Section 2.A – Financing and Benefits*

Since 1970, spending on long term care relative to GDP has been constantly increasing, as illustrated in Figure 3. However, before Germany introduced its public long-term care insurance in the beginning of the 1990s, expenditures remained below 0.5% of the German GDP until 1992.<sup>3</sup> The share of expenditures increased strongly since then, reaching more than 2.5% of the GDP in 2020. Part of this increase in expenditures is explained by demographic ageing and, in particular, by a growing share of the population aged 80 and over (cf. Figure 1 and Figure 2). Another important driver of expenditures were larger expansions of public long-term care insurance, e.g. in 1995, 2008, and 2017. Note that the expenditures include spending for younger people as well. In 2020, about 20% of recipients of long-term care benefits is younger than 65. Per-capita spending does not differ much across age.

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<sup>3</sup> Long-term care insurance was introduced in 1995. Expenditures already began to increase in 1992 since the government started to increase benefits for long-term care via public health insurance.

Figure 3: Share of GDP spent on long-term care (1970 – 2020)



Note: Data come from the system of health accounts. Total LTC expenditure is the sum of health LTC (HC.3 - HC stands for Healthcare Functions) and social LTC (HCR.1 - Health Care Related Functions). Health LTC (HC.3) comprises inpatient LTC (HC.3.1), day LTC (HC.3.2), outpatient LTC (HC.3.3), and home-based LTC (HC.3.4).

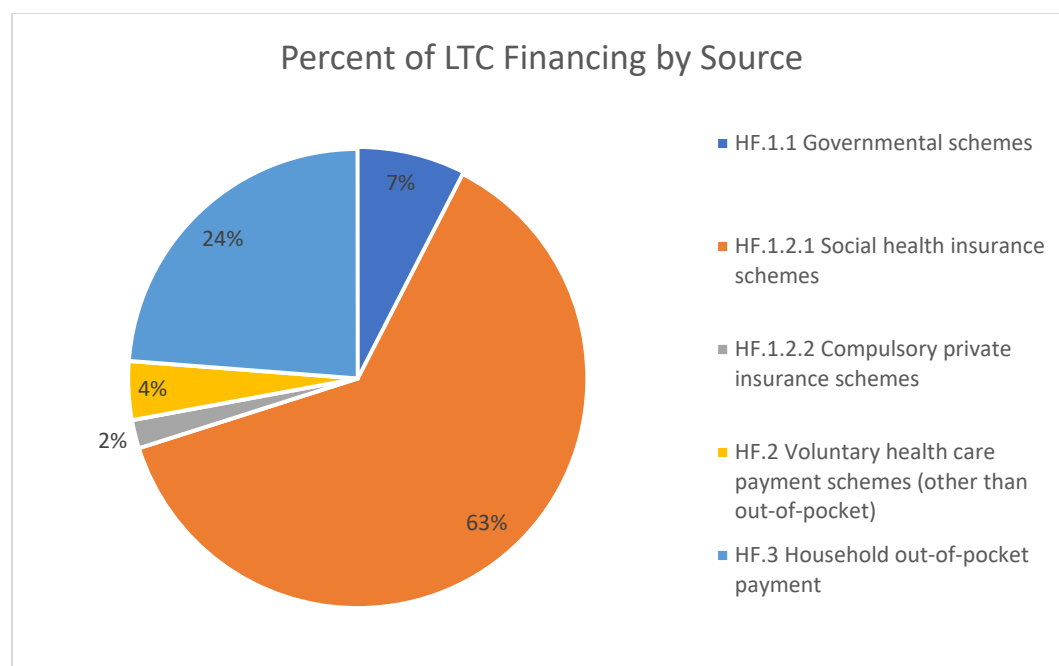
Sources: OECD (<https://stats.oecd.org/>)

The structure of the financing is explained by the institutional organization of long-term care in Germany, as illustrated by Figure 4.<sup>4</sup> The major share of the financing is public: 63% originates from the public long-term care insurance. The compulsory private insurance (2%) and other governmental schemes (7%) are financially less important. About a quarter (24%) represent out of pocket costs. In contrast, additional private long-term care insurance only plays a minor role with around 4 % of the total financing.

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<sup>4</sup> Data come from the System of Health Accounts from the OECD (OECD 2017). HC.3 (HC stands for “Healthcare Functions”) comprises expenditures for long-term care (health) and is composed of medical or nursing care and personal care services (help with ADLs). We do not include expenditures from HCR.1 (long-term care (social)) which relates to other assistance services. For more details, see Mueller et al. (2020).

Figure 4: Percent of LTC Financing by Source (2019)



Note: In this figure, long-term care includes total spending on home health care, nursing care facilities, and continuing care retirement communities. Data come from the system of health accounts. HF stands for “Financing Agents”.

Source: System of Health Accounts (2019) (<https://www.gbe-bund.de/gbe/>)

The long-term care insurance (LTCI) in Germany is organized in two independent branches, the social (public) LTCI and the private LTCI. Both are designed as compulsory insurances with identical benefits. About 88% of the population is insured through the social LTCI and 12% through private LTCI. This group mainly consists of civil servants, self-employed, and high-income earners who can choose between public and private insurance.<sup>5</sup> The social LTCI is funded by social security contributions, with a contribution rate of 3.05% in 2022 and an additional 0.35% for people without children. The private LTCI is financed by a funded scheme with age-specific contribution rates. Both mandatory schemes offer the same set of services. Households who are eligible for means-

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<sup>5</sup> Individuals with earnings above a certain earnings threshold (64,350 Euro per year in 2022) can choose between the social and private insurance.

tested social assistance receive LTCI that is financed by taxes and administered on the regional level.<sup>6</sup>

Individuals eligible for benefits from the LTCI are classified into one of five care levels. The care levels do not directly correspond to IADLs and ADLs but use similar criteria. Since 2017, care levels reflect the ability to live independently without the help of others. The assessment includes six<sup>7</sup> modules that refer to different areas of life:

1. “mobility” (10%),
2. “mental and communication-related abilities” and “behavior and psychological issues” (15%),
3. “self care” (40%),
4. “Independent handling of requirements and challenges associated with illness or therapy – and their management” (20%), and
5. “everyday life and social contacts” (15%).

The modules include different items to assess the independence in each area of life. Results are aggregated on a point scale that runs from 0 (“no help needed”) to 100 (“completely dependent on others”). Care levels correspond to certain point value intervals on this scale. For more information on this assessment, see Geyer et al. (2016); Rothgang and Kalwitzki (2016); Nadash et al. (2018). Both psychological and physical limitations are integrated in the assessment, which is carried out by the medical advisory service of the statutory health insurance funds. The first care level applies to people not yet in need of more intensive support and only comprises of consulting services or changes to the individual’s residential environment.

Recipients can choose among different benefits: cash benefits, benefits in kind, and benefits for nursing homes. The level differs between benefits and across care levels

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<sup>6</sup> The LTCI includes co-payments for care services and other costs in particular in nursing homes. If people are eligible to benefits but cannot afford paying these co-payments social assistance chips in.

<sup>7</sup> Module 2 includes two areas of life.



(Table 6). The lowest benefits are cash benefits that are direct cash transfers. The cash benefit is free to spend. Benefits in kind refer to the monthly payments for a professional home health care agency that can help with all ADLs and IADLs, including cleaning the house, help with meal preparation, and help with bathing. Individuals can choose to receive a mixture of both cash benefits and benefits in kind (See Table 7 for the distribution of care recipients for benefit types). Note that the service provider is directly reimbursed by the LTCI. The nursing home benefit only covers care related expenses. Co-payments, such as food, lodging, and investment costs for the facility, are not covered and must be borne by the individual. Patients must contribute an additional facility-specific co-payment that is the same for all patients in the same facility independent of their care level. These payments can be substantial and show great variation across German states.<sup>8</sup> Former East German states have the lowest co-payments, such as Saxony-Anhalt with an average of 1,218€ per month that divides into 338€ for additional care expenses, 549€ for lodging, and 286€ for investment costs in January 2019. Monthly copayments in North Rhine-Westphalia, at the other extreme, were more than 1,000€ higher with 2,252€ that divides into 717€ for additional care, 996€ for lodging, and 539€ for investment costs. To reduce this burden, the copayment for additional care expenses is partially covered since January 1, 2022, onwards, depending on the length of stay. In the first twelve months, 5% is covered, which increases to 25% for months 12 – 23, then 45% for months 24 – 35, followed by a maximum of 70 % for a stay longer than 36 months. Lodging and investments costs still have to be borne solely by the care recipient. If households pass a means-test and wealth test, the co-payments are covered by social assistance.<sup>9</sup> In 2020,

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<sup>8</sup> As Table 7 shows, LTCI benefits vary by level of care. This is also the case for co-payments in nursing homes until 2017. A reform in 2017 unified co-payments at the facility level.

<sup>9</sup> The income limit is not a fixed sum but is calculated as follows: It is twice the standard benefit level of social assistance (*Regelbedarfsstufe I*; 449€ in 2022). In addition, reasonable costs for accommodation, excluding heating costs, are reimbursed. The exact rate varies regionally. In addition, there is a family supplement of 70% of the standard benefit rate for the non-separated spouse and dependents. Income above this threshold is withdrawn. However, the specifics are determined at an individual level with the social assistance agency. With respect to wealth, there is an allowance of 5,000€ (2022) and a few exceptions, for example for owner occupied housing. For people, living in a nursing home, who cannot afford the services, social assistance covers all costs. Moreover, the individual gets a monetary transfer for personal needs of 27% of the standard benefit rate.

for about 400,000 individuals, the costs were covered by social assistance. This is close to 10% of all individuals in need of care. When focusing only on individuals in nursing homes, the relative effect is considerably higher and increase to close to 50%.

*Table 6: Care insurance benefits depending on care level, 2022*

Payments per month in € for care levels.	Level 1	Level 2	Level 3	Level 4	Level 5
Cash benefits	-	316€	545€	728€	901€
Benefits in kind	-	724€	1363€	1693€	2095€
Nursing home benefits	-	770€	1262€	1775€	2005€

Note: This payment is made to cover needs for help with ADL/IADL. Benefits in kind can be chosen if the care recipient prefers professional home care services. Care services include, e.g., bathing, toileting, dressing, grooming, eating and meal preparations, and medication reminders. The care provider is directly reimbursed. Cash benefits and benefits in kind can be combined.

Source: §§36 – 43 SGB XI.

*Table 7: Benefit types by care levels for social care insurance, 2021*

Benefit type	Care recipients by care level					Total
	Level 1	Level 2	Level 3	Level 4	Level 5	
Cash benefits	0.0	28.6	15.8	5.2	1.7	51.3
Benefits in kind	0.0	1.8	1.2	0.7	0.4	4.1
Mixture of cash benefits and benefits in kind	0.0	6.0	4.9	1.8	0.7	13.4
Nursing home benefits	0.1	3.0	6.2	5.6	3.1	18.0
Other*	0.0	5.1	4.6	2.4	0.9	13.0
<b>Total</b>	<b>0.1</b>	<b>44.5</b>	<b>32.7</b>	<b>15.7</b>	<b>6.8</b>	<b>100.0</b>

Note: \*Other entails: day & night care, home care when the caregiver is unable to attend, short term care, prevention care, stationary care for the disabled.

Source: Federal Ministry of Health,

Additionally, there exist multiple schemes designed to relieve relatives who provide care. For example, recipients of home health care with any care level are entitled to an additionally monthly payment of 125€ that is meant to be used to relieve caring relatives

or allow the recipient to live a more independent life. If a caring relative cannot provide care for a limited time of up to 6 weeks per year, for example due to vacation, increased cash benefits are available to compensate someone for this interim time. Furthermore, caring relatives are supported if their care work impacts their employment. The pay of up to 10 workdays can be compensated if someone cannot not work due to the (unforeseeable and sudden) need to take care of a relative. Relatives caring for someone more than 10 hours per week on at least two days are entitled to payments into their social security insurance (for more details, see Schulz (2010) and Nadash et al. (2018)). Moreover, there are two types of unpaid care leave for up to 24 months. Eligibility depends on firm size and take-up is rather limited.

As mentioned above, the role of supplementary private insurance plans in Germany is limited, even by international standards. For example, in the US, private insurance plans contribute 8% to the overall financing and, thus, are two times more important than in Germany. Since the public LTCI is designed as a partially comprehensive insurance, there is room for private complementary insurance. For example, as mentioned above, in 2019 co-payments for a place in a nursing home amount to nearly 2,000 euro per month (national average). There are two different types of supplementary insurances. The most important type of contract, which makes up about 95% of the market, is an insurance that provides fixed benefits (“Pflegetagegeldversicherung”) in case LTC services are needed. Depending on the care level, the insurance pays a fixed amount that is not earmarked and, therefore, the spending is not monitored. Since 2013, there is a public subsidy for these contracts – if they fulfill certain criteria.<sup>10</sup> The subsidy amounts to five euro per month and has not been changed since 2013. In 2020, there were about 2.6 million contracts with fixed benefits without subsidy and about 900,000 with subsidies (Table 8).

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<sup>10</sup> These criteria include, among other things, the exclusion of health tests, no risk rating, a minimum contribution of 10 euro per month and a cost cap.

Table 8: Market for private long-term care insurance, 2010/2020

<b>Private long-term care insurance</b>		
	<b>2010</b>	<b>2020</b>
Private LTCI (in 1000s)	1,700	2,854
Fixed benefits	1,506	2,644
Relative benefits	290	367
Contributions (Mio. EUR)	439	1,385
Payments (Mio. EUR)	35	325
<b>Subsidized private LTCI with fixed benefits (since 2013)</b>		
No. of insurances (in 1000s)		921
Contributions (Mio. EUR)		342
Payments (Mio. EUR)		54
<b>Total private LTCI</b>		<b>3,775</b>
<i>Care pension insurance (in 1000s)</i>		<i>244</i>
<i>Contributions (Mio. EUR)</i>		<i>172</i>

Note: Care pension insurances are not included in the total number of private LTCIs.

Source: German Insurance Association (GDV)

There is also another type of contract that provides benefits in case of need for LTC (“relative benefits”). The benefits are directly linked to care. This means that the insurance only pays costs directly related to care – such as outpatient care service. The expenses must be proven with receipts. There are two tariff options for long-term care insurance. The services can either be agreed, such that they are covered up to a maximum amount per year. The other variant is that the long-term care insurance increases the benefits of the statutory long-term care insurance by a certain percentage.

There is a third type of contract, the care pension insurance, that works like life insurance and pays an annuity in case LTC is needed. As illustrated in Table 8, the market is relatively small. Added together, about four million people own a private LTCI in 2020. Contributions amount to 1.7 billion.

According to SOEP data, about 9% of individuals older than 65 who are living in private households have a private insurance plan. As represented in Table 9, the number is lower

for individuals older than 85, with only around 5% of individuals having a private insurance. There exists a positive income and wealth gradient. Households with a private long-term care insurance plan have higher income and hold more wealth. The health situation differs between households with and without private insurance, however the number of observations is too low to draw strong conclusions (Table 10).

*Table 9: Population with LTC Insurance, 2018*

	65+	85+
Population with private LTC Insurance	1,569,513	89,465
Share of Population	(0.087)	(0.05)
Observations	5,387	396

Note: Only private households.

Source: SOEPv36

*Table 10: Characteristics by LTC Insurance, 2017/2018*

	65+ Insured	65+ Uninsured	85+ Insured	85+ Uninsured
Total Household Wealth - Mean	354,519	147,251	356,611	144,792
Total Household Wealth - Median	175,000	68,000	255,000	50,000
Total Household Income - Mean	33,226	21,884	29,095	19,883
Total Household Income - Median	29,240	19,395	27,075	18,537
Live with Spouse or Partner	0.651	0.569	0.315	0.307
Formal Help with ADL/IADLs	0.016	0.029	0.169	0.131
Informal Help with ADL/IADLs	0.029	0.054	0.185	0.180
Observations	545	4,842	19	377

Notes: Net household income weighted by household size (OECD modified scale). Income from all household members. Wealth data from 2017; income data, asked in 2018, refer to 2017. Only private households. A part of the population receiving care does not answer the personal questionnaire, therefore, we do not have information about private insurance of this group.

Source: SOEPv36

## Section 2.B – Long term Care Receipt

The demand for long term care increases with age. In the following, we focus on the distribution of long-term care receipt by age and health status. SHARE data provide self-reported information about whether the individual receives (or not) help when performing IADLs and ADLs due to a health problem. If the respondent receives help, SHARE ascertains the frequency (about daily; weekly; monthly; less often).

Overall, there exists a strong age gradient, as highlighted in Table 11: While close to 50% of all individuals older than 65 receive some care, the share increases to 80% for the group of individuals older than 85. The age gradient persists when focusing on individuals with limitations in one ADL. However, among individuals with two or more limitations in ADLs, the share of individuals receiving care is above 90% irrespective of age.

Table 11: Shares of elderly who received care by age and ADL limitation, 2015/17

	65+	85+
Any Care – All	0.483	0.800
Any Care – 0 ADLs & 0 IADLs	0.277	0.473
Any Care – 0 ADL & 1+ IADLs	0.857	0.942
Any Care – 1 ADLs	0.777	0.959
Any Care – 2 ADLs	0.927	0.968
Any Care – 3+ ADLs	0.949	1.000
Observations	2,841	271

Notes: Pooled data from SHARE waves 6 & 7. Respondent weights are used for all calculations. The care variable is defined as either living in a nursing home or having received either formal or informal home help from outside the household.

Source: SHARE (doi: 10.6103/SHARE.w6.800 & doi:10.6103/SHARE.w7.800)

Waves 1 and 2 of SHARE also include questions about the number of hours of help/care received. We use this information to calculate the distribution of the combined weekly hours of care received both from informal and formal sources and for help with both ADLs and IADLs. Table 12 highlights the unequal distribution in received care hours. While the median for those aged 65 and more is eight hours per week, this number rises

steeply to 45 hours for the 90<sup>th</sup> percentile. We also observe an increased care supply for individuals older than 85. The average care hours received by this group is 13 hours higher than for individuals 65 and older. The results should be interpreted with caution due to a small sample size in the older age group. We can also distinguish provided care hours by formal and informal care (Table 13). Again, we find a strong age gradient. This holds across the full distribution. At the median, older individuals receive – with 14 hours – about twice as many hours of informal care per week than individuals of the age groups 65 and older. The differences for formal care are very similar.

*Table 12: Distribution of weekly hours of formal and informal care received by age*

	65+	85+
5 <sup>th</sup> Percentile	1	1
10 <sup>th</sup> Percentile	1	2
25 <sup>th</sup> Percentile	3	7
50 <sup>th</sup> Percentile	8	19
75 <sup>th</sup> Percentile	21	35
90 <sup>th</sup> Percentile	45	86
95 <sup>th</sup> Percentile	112	196
Mean	22	35
<i>Observations</i>	<i>276</i>	<i>63</i>

Note: SHARE waves 1 and 2. Respondent weights are used for all population estimate calculations. Nursing home residents are automatically excluded from all calculations. Hours include care received from helpers who assist with ADLs or IADLs because of a health problem. Hours of help from each helper are limited to 16 hours per day to allow for 8 hours of rest. Respondents could provide the number of days either overall in the last month, per week, or as every day. In the 1<sup>st</sup> case, the days per month was divided by 4.35 (365/7\*12). In the 2<sup>nd</sup> case, it is the stated number of hours, in case of daily help, the number was multiplied by seven. If it was less than monthly, we divide by 8.7 assuming that the frequency is – on average – bi-monthly. The hours include formal and informal care.

Source: SHARE (doi: 10.6103/SHARE.w1.800 & doi: 10.6103/SHARE.w2.800)

Table 13: Distribution of Hours (per week) Received by Type

	<u>65+</u>		<u>85+</u>	
	Formal	Informal	Formal	Informal
5th Percentile	1	1	1	1
10th Percentile	1	2	1	2
25th Percentile	2	3	7	4
50th Percentile	7	6	14	14
75th Percentile	21	16	35	21
90th Percentile	37	45	84	80
95th Percentile	84	80	112	112
Mean	17	17	28	23
<i>Observations</i>	234	107	48	38

Notes: SHARE waves 1 and 2. Weighted statistics. Formal care includes paid help by a non-relative. Informal care includes help by a relative, whether paid or not. Individuals living in nursing home are excluded. Formal and informal care include only those associated with limitations for ADLs or IADLs, including managing money. The hours of help by caregiver cannot exceed 16 hours per day taking into account 8 hours of rest. The number of hours is declared either by month, by week or per day. If declared by month, the number of hours was divided by 4.35.

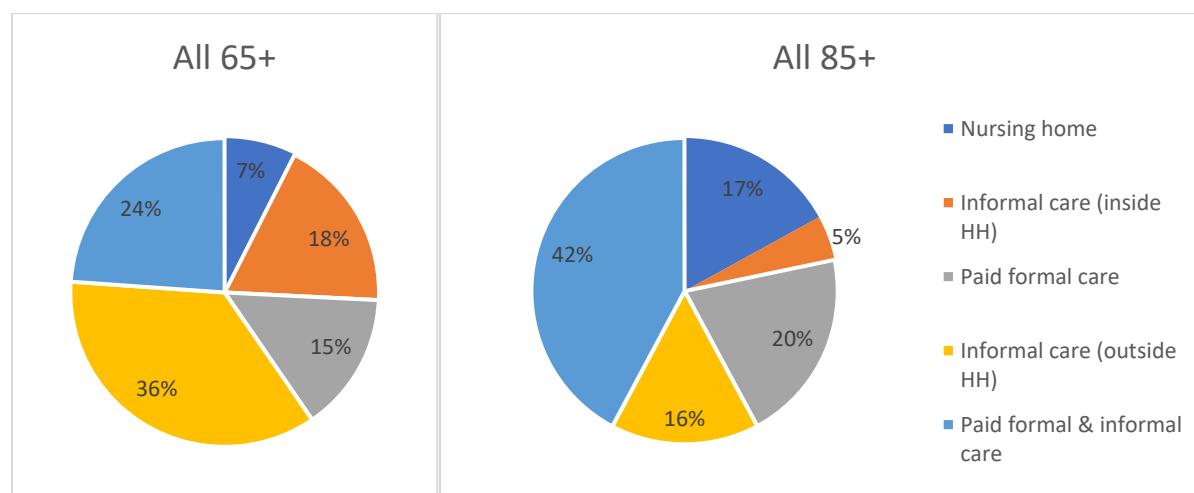
Source: SHARE (doi: 10.6103/SHARE.w1.800 & doi: 10.6103/SHARE.w2.800)

Similarly, the type of care strongly varies with age, as shown in Figure 5. Informal care inside or outside the household is – at 54% – most common for individuals older than 65, with only 7% living in a nursing home.<sup>11</sup> At the age of 85 or older, about 17% of the care dependent individuals reside in a nursing home while the share of informal care (as the only type of care) is reduced to 21%. The type of care also strongly depends of the health status and the number of limitations in IADLs and ADLs, as illustrated in Figure 6. The pattern is similar for the two age groups we consider: Informal care is most common when the care recipient has fewer than two ADLs. For individuals with more ADLs, the share with formal care and in nursing homes is strongly increasing.

<sup>11</sup> We adjust survey weights accounting for underrepresentation of the population living in nursing homes.



Figure 5: Type of Care Received by Age. Germany, 2015/2017



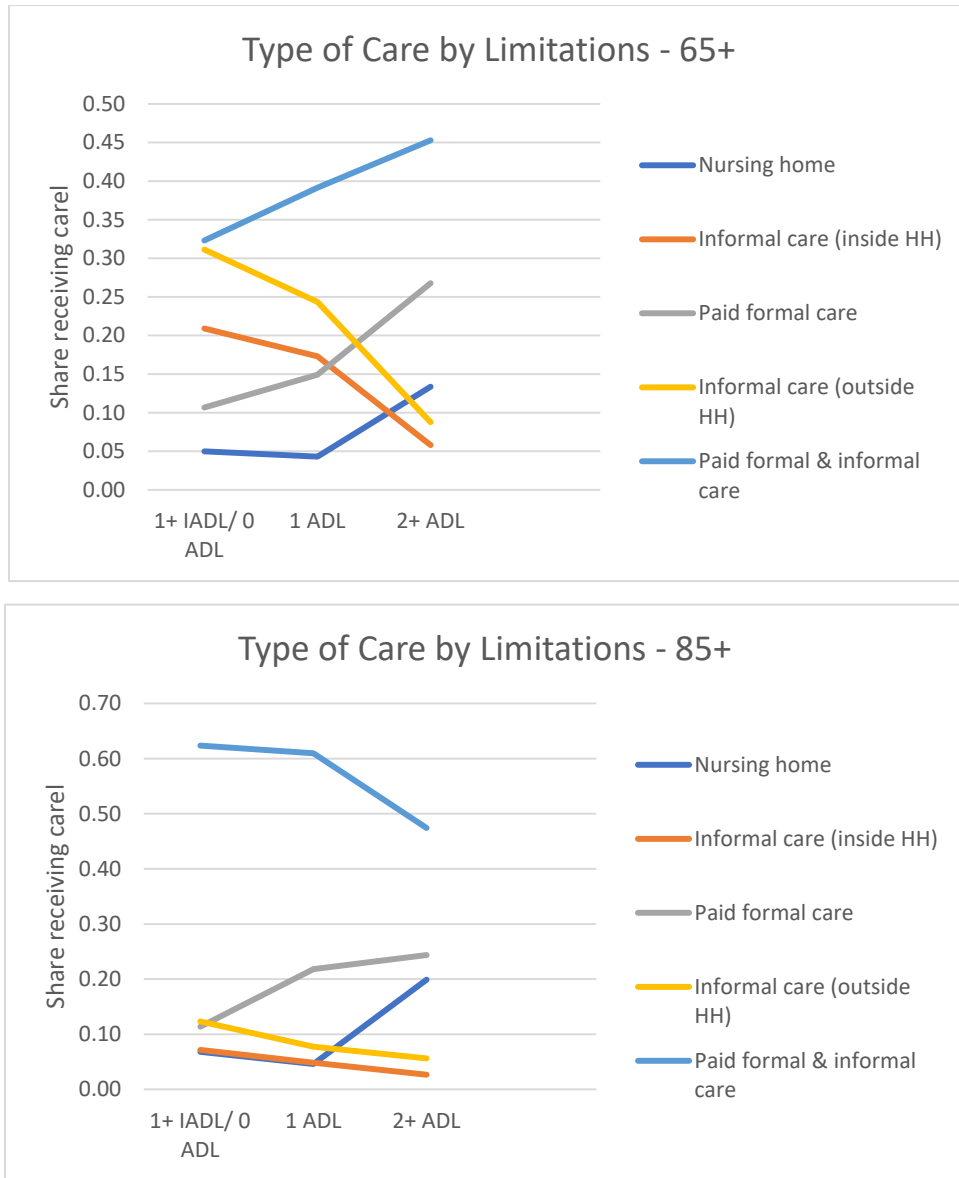
Notes: Pooled data from SHARE waves 6 & 7. Weighted statistics. Formal and informal care include only those associated with limitations for ADLs or IADLs, including managing money. Weights were adjusted accounting for underrepresentation of population living in nursing homes.

Source: SHARE (doi: 10.6103/SHARE.w6.800 & doi:10.6103/SHARE.w7.800)

Home care is the dominant form of long-term care in Germany and family members are the main care provider. Although Germany introduced a public long-term care insurance in 1995 (see above), it still relies heavily on informal care. In 2021, Germany had about 4.5 million beneficiaries of statutory long-term care insurance. Of those, about 84% received care at home. Most of them (~66%) did not receive formal care services but relied on self-organized informal care. According to different polls, this reflects preferences of caregivers and recipients, i.e. on average, Germans prefer informal home care over formal home care services (Schupp and Künemund 2004).

Stationary nursing care is less preferred by care recipients. Most people prefer ageing in their place and to stay in their familiar surroundings as long as possible (Rudel et al. 2017; Lehnert et al. 2018). Moreover, nursing home beds require substantial co-payments (see next section), which constitutes another reason why it is not very popular. Often people move to a nursing home if care needs are extensive and/or if their social network is small.

Figure 6: Type of Care Received by Age and Limitations. Germany, 2015/2017



Notes: Pooled data from SHARE waves 6 & 7. Weighted statistics. Help can be with ADLs, IADLs, or managing money due to a health problem. Low number of observations for age group 85+.

Source: SHARE (doi: 10.6103/SHARE.w6.800 & doi:10.6103/SHARE.w7.800)

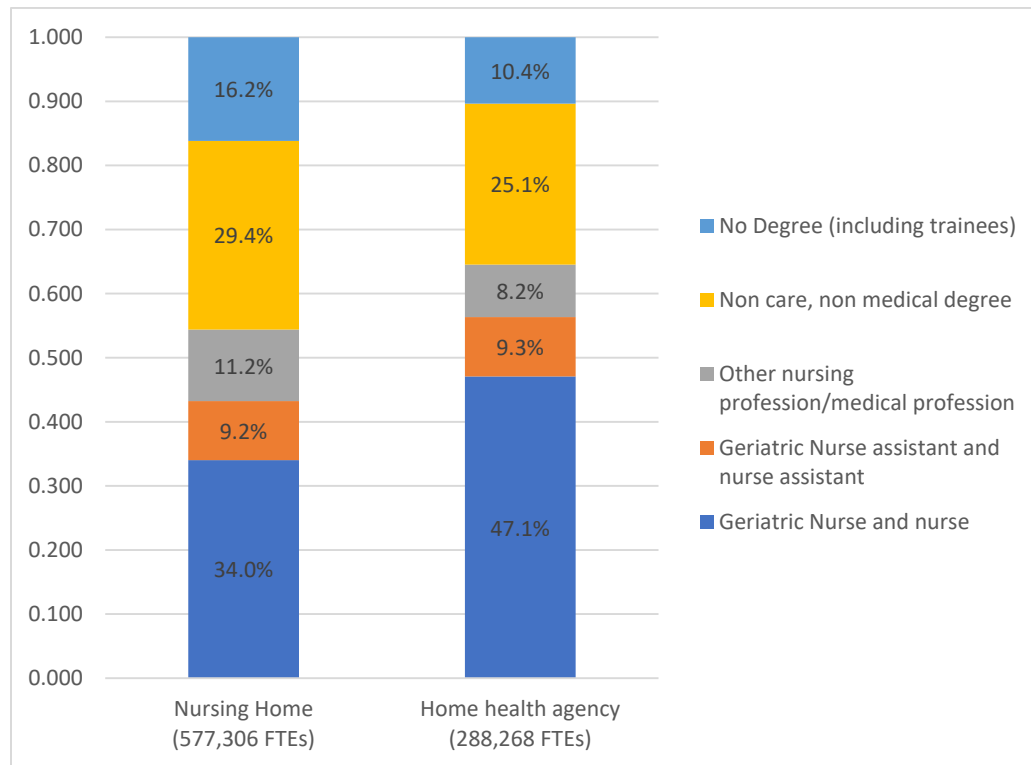
Given the importance of informal care in Germany, it raises the question if and how informal caregivers are able to reconcile caregiving and working. People with a lower socio-economic status have a higher risk of becoming care dependent but also fewer

resources to pay for care services. Since the care network is usually the spouse or children, the socio-economic status of care recipients and caregivers is highly correlated.

### Section 2.C – Long term Care Supply

Formal caregivers work either in home health agencies, to help older individuals at home, or in nursing homes. In Germany, more than two third of these workers were employed in nursing homes in 2019, representing 570,000 full time equivalents (FTE) in nursing homes and 290,000 FTEs in home health agencies (Figure 7).

Figure 7: Percent distribution of nurses, aides, and social workers at care facilities, 2019



Source: Pflagestatistik (2019)

Formal caregivers are either with no qualification, mostly for housekeeping, shopping, and preparing meals; or qualified caregivers. Qualifications leads to four types of qualified caregivers: assistant-nurse, nurse, assistant-geriatric nurse, and geriatric nurse; each with differing responsibilities, tasks, training, and wages. A geriatric nurse is a nurse who

specializes in the care of older adults. They typically care for frail and elderly patients with long-term, chronic medical conditions that are not related to an acute illness or injury. Prior to 2020, Germany had three different vocational tracks for nurses: nurses, geriatric nurses, and pediatric nurses. A reform in 2020 integrated the vocational tracks into one track that allows for specialization after two years. Nurse assistants require less training (see Table 14). Care assistants support geriatric nurses in all activities related to the care and nursing of elderly people. They take on nursing tasks such as helping with personal hygiene and eating. They also support older people in coping with their everyday lives. The vast majority of formal care providers has some qualification. The share of trained nurses in ambulatory care is close to 50%, but lower (35%) in nursing homes. In nursing homes, workers without degree or with non-care related degrees are more common, which is related to, for example, cleaning or food provision.

The minimum training requirements varies by states between one and two years. The largest share of the population 65 or older resides in states with a minimum requirement of one year (Table 14).

*Table 14: Training requirements for long-term care workers, 2021*

Minimum training time required by state	Population aged 65+ living in states with corresponding minimum training time	Share of GER population aged 65+	# states
1 year	13,703,058	0.75	10
1.5 years	1,122,090	0.06	2
2 years	3,446,488	0.19	4

Source: Federal Employment Agency, <https://berufenet.arbeitsagentur.de/berufenet/faces/index?path=null/kurzbeschreibung/ausbildungsdauerabschluss&dkz=9063>, Population Data from Federal Statistical Office <https://www-genesis.destatis.de/genesis/online>

The pay structure in nursing facilities and in ambulatory care strongly depends on qualification and region (Table 15). Geriatric nurses and general nurses receive the highest wages, while the wages of assistance are considerably lower. This is true for West and East Germany, which after more than 30 years after reunification still has a lower wage level. In West Germany, the median wage of a full time employed nurse is below the median of all workers and similar for workers with a vocational degree - at least in nursing homes. In the East, this picture is mixed. Median full-time wages in nursing homes are above wages of all workers but this is not true for workers in ambulatory care. Germany introduced a specific minimum wage for workers in the long-term care sector in 2011 that is higher than the general minimum wage (Table 16). In 2022, it is 12.55 € per hour for non-medical care and 15.40 € per hour for a nurse.

*Table 15: Pay for full-time care workers at nursing facilities and in home health care, 2019*

		<i>Median monthly wage (full time employee) in € 2020</i>		
		All	West Germany	East Germany
<i>Nursing Home</i>	(1) Geriatric Nurse	3,099	3,160	2,776
	(2) Nurse	2,914	2,981	2,713
	(3) Geriatric aide/assistant	2,182	2,227	2,000
	(4) Nurse aide/assistant	2,526	2,609	2,085
<i>Home Health Care</i>	(1) Geriatric Nurse	2,721	2,805	2,518
	(2) Nurse	2,776	2,859	2,573
	(3) Geriatric aide/assistant	2,039	2,138	1,949
	(4) Nurse aide/assistant	2,111	2,223	1,967
<i>All Industries</i>	All Workers	3,401	3,526	2,827
	Without vocational degree	2,513	2,558	2,106
	Vocational degree	3,280	3,429	2,643
	Academic degree	5,235	5,438	4,488

Source: Carstensen et al. (2021): Entgelte von Pflegekräften 2020 (link); Bundesagentur für Arbeit (2021): Sozialversicherungspflichtige Bruttomonatsentgelte (Jahreszahlen) (Federal employment office)

Table 16: Minimum wage, June, 2022

	Nursing home and home care agency as employer		Household as employer	
	Hourly wage	Monthly wage	Hourly wage	Monthly wage
Care aide	12.55	2,175	9.82	1,701
Care aide with 1-year of training	13.20	2,288	9.82	1,701
Nurse	15.40	2,669	9.82	1,701

Source: Vierte Verordnung über zwingende Arbeitsbedingungen in der Pflegebranche (2020) (BAnz AT 28.04.2020 V2)

In Table 17, we describe the structure in nursing homes in Germany. In 2019, a total of 15,380 nursing homes hosted the elderly in Germany, with 796,489 employees, 886,654 beds and 82,899 day/night care. It means that 40% of elderly aged 85+ can get access to nursing homes. The occupancy rate is not saturated for beds but it is for day/night care, showing an increasing demand for staying at home with a flexible supply of long-term care. The occupancy rate and the number of beds varies between states (Table 18). The minimum rate amounts to 85 in Rhineland-Palatinate, the highest rate is with 94.2 in Mecklenburg-Vorpommern. The number of beds relative to the population is quite similar between the states.

Informal care is also a large part of the LTC supply. The elderly aged 65+ (resp. 85+) declare 2.32 times (resp. 1.8) more informal caregivers than formal caregivers for help with ADL and IADL (see Table 19). It represents 1.6 million Germans who help their elderly relatives. Note that this number is probably a lower bound because these statistics rely on declarative surveys, which suffer from bias of under-declaration of helpers (in particular the help of spouses and children, which is sometimes not perceived as help but as normal contribution, especially for administrative tasks and cleaning).

Table 17: Absolute number of nursing homes, beds, and occupancy rate, 2019

		Type	
<b>SUPPLY</b>			
Nursing homes			15,380
Employees	All		796,489
Beds			969,553
	Long-term nursing care		886,654
	Day/Night care		82,899
<b>OCCUPANCY</b>			
Nursing home residents			957,536
	Long-term nursing care		818,317
	Day/Night care		139,219
Occupancy rate			98.76%
	Long-term nursing care		92.29%
	Day/Night care		167.94%
<b>RATIO SUPPLY OVER POPULATION</b>			
Pop 65+			18,090,682
Beds per pop 65+			5.36%
Pop 85+			2,386,854
Beds per pop 85+			40.62%

Note: Nursing homes often offer day care services in addition to long-term nursing care. Occupancy rates can be more than 100% since these beds can be used by different people over a range of time.

Source: Data on nursing homes are from Pflegestatistik (2019); population data from Federal Statistical Office <https://www-genesis.destatis.de/genesis/online>

*Table 18: Distribution of nursing homes occupancy rate and beds across states, 2019*

State	Occupancy rate (%)	Nursing home beds per one hundred 65+
Rhineland-Palatinate	85.4	4.7
Hamburg	87.5	5.3
Bremen	87.7	4.7
Bavaria	87.9	4.8
Lower Saxony	88.5	6.0
Hesse	89.4	4.7
Schleswig-Holstein	89.4	5.7
Saarland	89.9	5.3
Berlin	90.6	4.5
Baden-Württemberg	91.5	4.4
Saxony-Anhalt	92.7	5.2
Brandenburg	92.8	4.2
Thuringia	93.3	4.8
North Rhine-Westphalia	93.4	4.6
Saxony	93.9	5.0
Mecklenburg-Vorpommern	94.2	5.0
Min	85.4	4.2
Max	94.2	6.0

Note: Occupancy rate is defined as the percentage of beds occupied in nursing homes.

Source: Pflegestatistik 2019. <https://www.destatis.de/DE/Themen/Gesellschaft-Umwelt/Gesundheit/Pflege/Publikationen/Downloads-Pflege/laender-pflegeheime-5224102199004.html>. population data from Federal Statistical Office <https://www-genesis.destatis.de/genesis/online>



*Table 19: Informal Care Provision – Population Est.*

	65 Plus	85 Plus
Formal Helpers - ADL/IADLs	676,483	343,059
Relative to 65+/85+ Population	0.035	0.150
Relative to 18-64 Population	0.013	0.007
Informal Helpers - ADL/IADLs	1,572,575	619,502
Relative to 65+/85+ Population	0.081	0.270
Relative to 18-64 Population	0.031	0.012
All Helpers - ADL/IADLs	2,249,058	962,562
Relative to 65+/85+ Population	0.116	0.420
Relative to 18-64 Population	0.045	0.019
<i>Observations</i>	428	146

Notes: Respondent weights are used for all population estimate calculations. Only private households. Note that this information is from the SOEP household questionnaire which includes a filter question whether someone in the household has a health problem that requires a permanent personal or professional assistance. Moreover, we don't know whether the person received help from several people in a certain category of helpers. This leads to a lower estimate of the number of helpers compared to, for example, SHARE or in the personal SOEP questionnaire.

Source: SOEPv36.

### *Section 2.D – Who are caregivers?*

Data from the long-term care insurance inform us about Formal home care workers characteristics (Figure 8). In 2019, the LTCI counted 421.550 people working in the home care sector. A relatively large share (77%) of these workers works part-time.<sup>12</sup> As in many countries, formal caregivers are mostly women (87%). The qualification level is comparably high: 44% are trained nurses, 8% have another nursing degree, and 9% are nurse assistants. That is, the majority of these workers have a vocational degree related to nursing care. Only about 12% of the workforce have no degree (including trainees). The composition by age is relatively homogenous, without any age range over-represented:

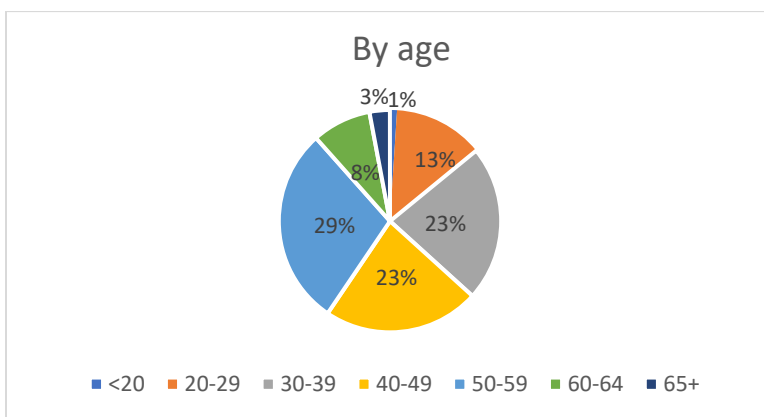
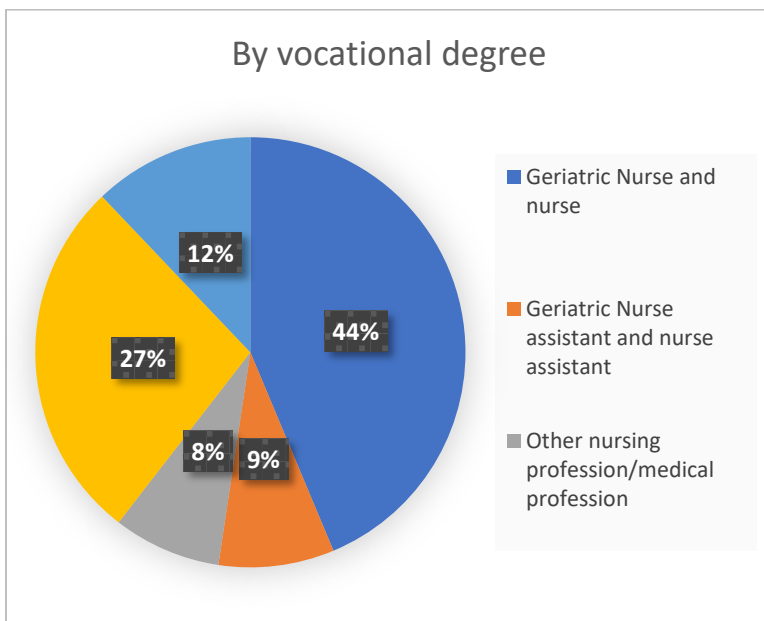
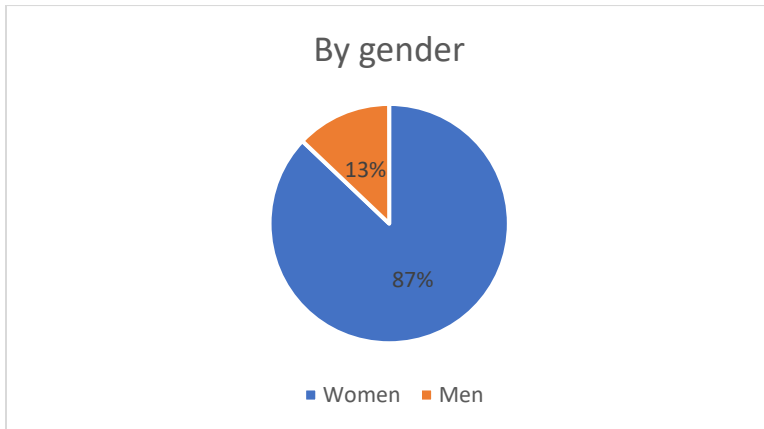
<sup>12</sup> About 17% work in so called marginal employment (“Mini job”) with a maximum monthly income of 450 euro (2019). The employee does not have to pay social security contributions or taxes.

14% under 30 years old, 46% between 30 and 50; 40% over 50. The age composition does not differ much from the age composition of the general workforce.

In many countries, the share of migrant workers among home care workers is relatively high. This is not the case in Germany. Although we cannot distinguish between workers in nursing homes and home care workers, the share of foreign nationals in 2021 was only about 13% in the long-term care sector. This is about the average across all industries in Germany. Interestingly, the share used to be much lower: in 2016 it was at about 7%. That is, within 5 years their share has nearly doubled. The increase was due to two main related factors: first, movement of labor within the European Union was liberalized for new member states and, second, Germany increased its efforts to hire care workers abroad due to shortages in this sector (Bundesagentur für Arbeit 2022).

Figure 9 shows the composition of informal caregivers in Germany. As described above, most are relatives of the care recipient, often spouses or children, which explains in part their demographic composition. For comparison, we also show unconditional statistics for the population aged 50+. Informal caregivers are also mostly women (60%), however the share is lower than in the formal workforce. One important factor are male spouses who care for their care dependent partner. Moreover, data come from a survey question about care provision without specifying exactly the type of care activity. Caregivers are often aged over the age of 50 (73%). While about 45% of the adult population is below the age of 50, it is only 26% of the informal caregivers. Among informal caregivers, 11% have low education and 28% have higher education. This is very similar to the education levels of the general population aged 50+.

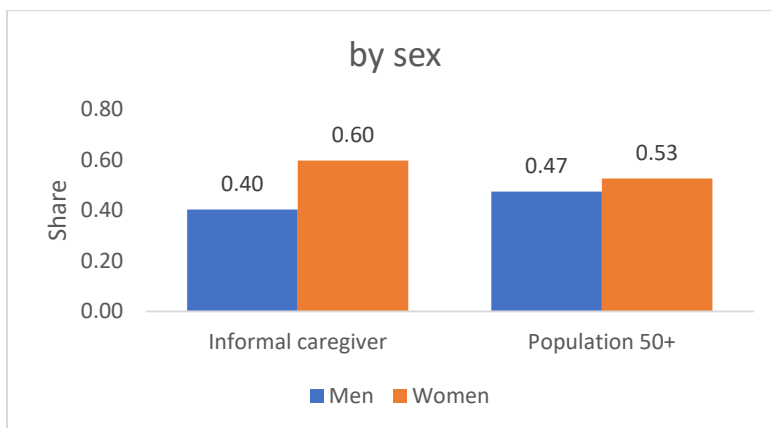
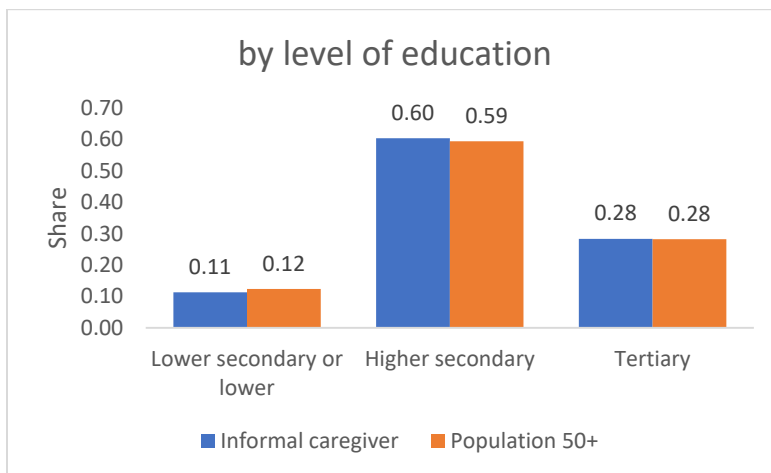
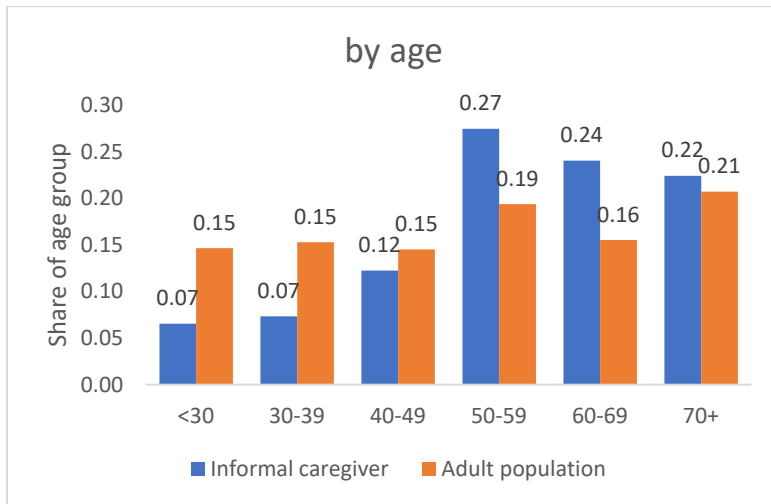
Figure 8: Demographic composition of formal home care workers, 2019



Note: All employees in ambulatory care service sector. We report head-count ratios. Therefore, the shares differ compared to Figure 7 where we report FTE with respect to the composition by vocational degree.

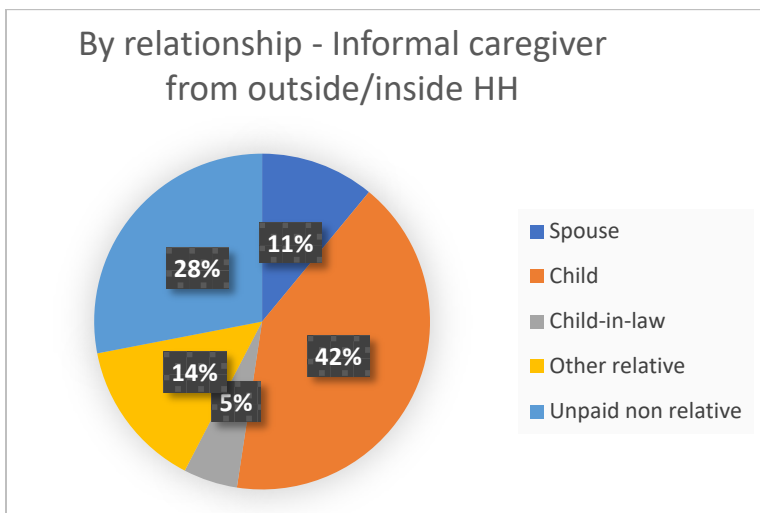
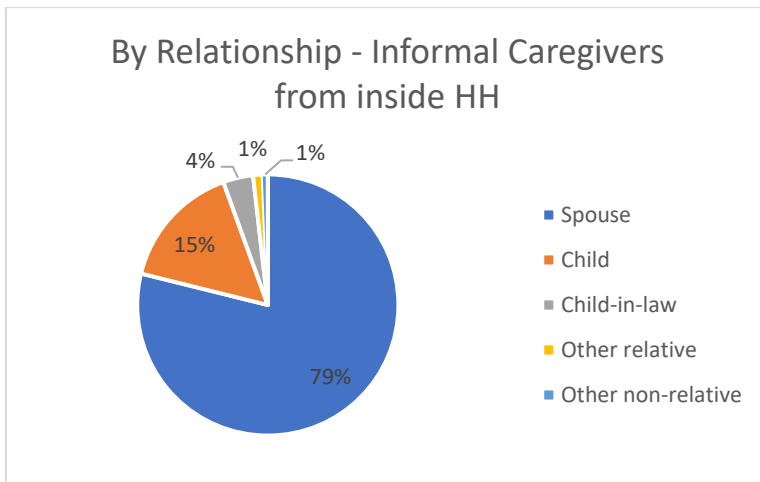
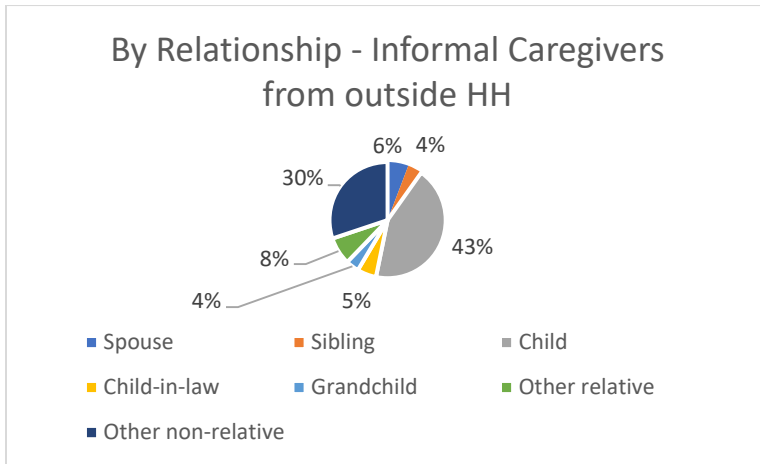
Source: Federal Statistical Office (Pflegerstatistik)

Figure 9: Demographic composition of informal caregivers in comparison to adult population and population 50+, 2019



Note: SOEPv36.

Figure 10: Relationship between informal caregivers and the elderly



Source: SHARE (doi: 10.6103/SHARE.w6.800 & doi:10.6103/SHARE.w7.800)

Care provided within the household and from sources outside the household comes from different sources. Looking at caregivers from outside the household (Figure 10, upper panel), about 43% comes from own children and 30% from other non-relatives. In other words, about 70% comes from relatives. Care within the household (Figure 10, lower panel) comes almost exclusively from relatives (99%), most often from spouses (79%).

### Part 3: Total Costs and spendings

The cost of long-term care for the elder (65+), including both cost of nursing home and home health agency, reach 61 billion euro in 2019 (Table 20). Nursing homes are comparably expensive: Half of these spending are for nursing homes while only about 22.5% of beneficiaries use these institutions. Out-of-pocket spending differs greatly between modes of care. Out-of-pocket expenditures make up only about 7% of total expenditures for home care. In nursing homes, 41% of expenditures are out-of-pocket payment (see Figure 11). Most of the expenditures are covered by long-term care insurance. The share of other governmental schemes in expenditures for inpatient care is relatively high. This is explained by a relatively high rate of benefit recipients who cannot afford co-payments for nursing homes: about one-third of all nursing home residents receive means- and wealth-tested social assistance.

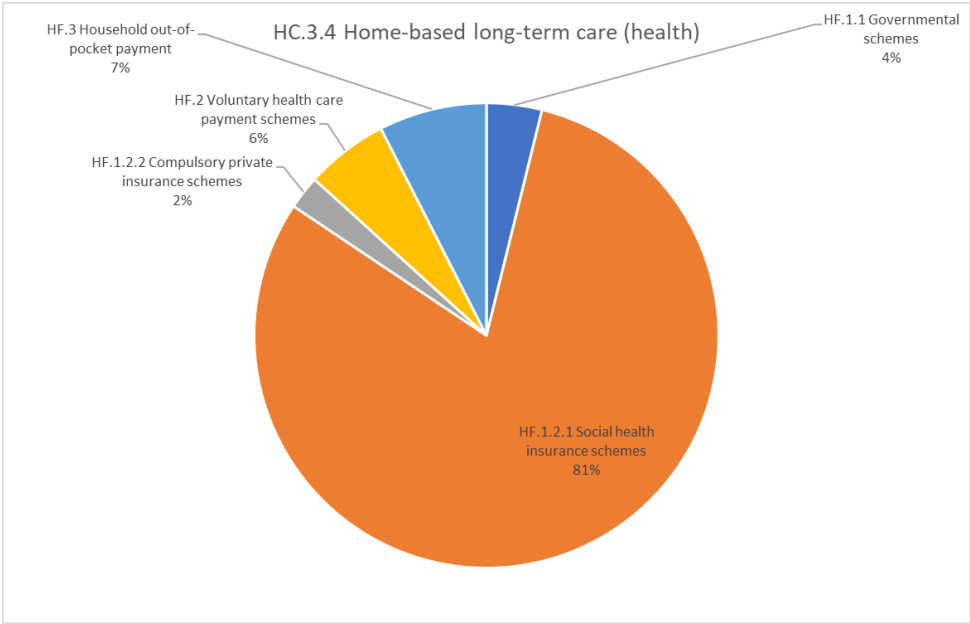
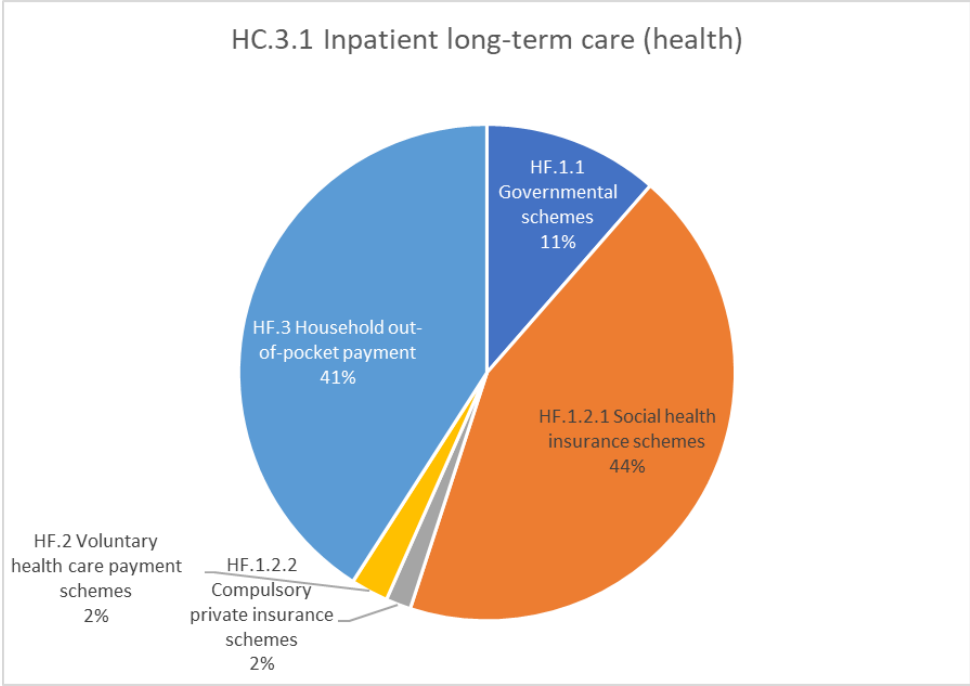
*Table 20: Formal care costs, annual. Germany. 2019*

Types	Number of users (65+)	Total spending (billion euro)
Nursing home	689,698	31
Home health agency	2,379,039	30

Source: Number of users for formal care come from BMG 2019. Total spending was adjusted for spending for people aged 65 and older. Expenditures from system of health accounts <https://www.gbe-bund.de>

Since 2000, LTCI spending on institutional care has been gradually replaced by spending on home-based care and support for informal caregivers (Figure 12). Thus, while about 46% of spending went to inpatient care in 2000, by 2020 this share fell to 31%.

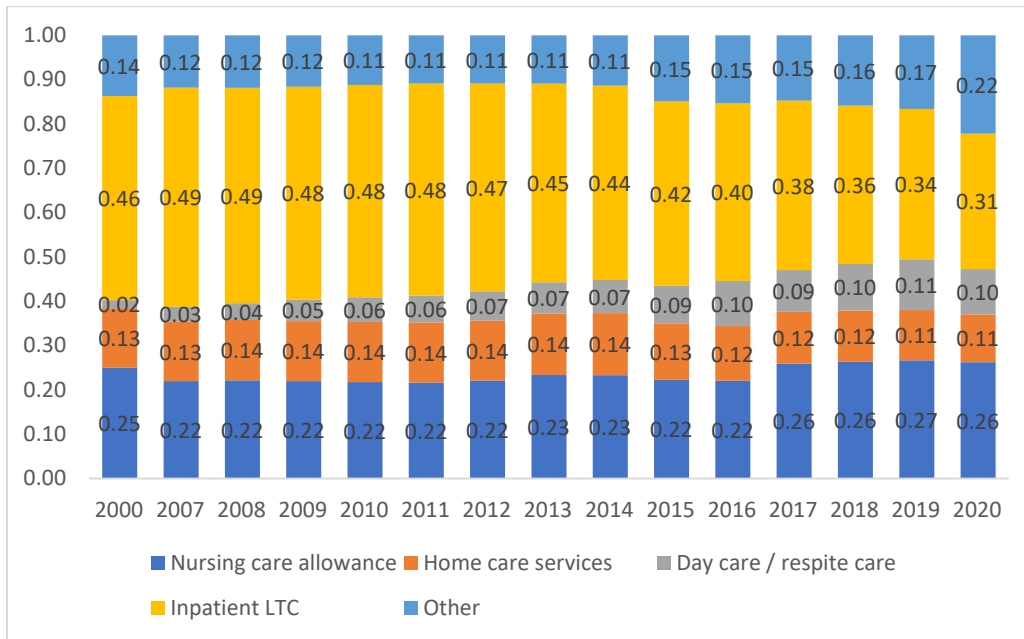
Figure 11: Percent spent on home health care and nursing care facilities, by source of funds, 2019



Notes: Data come from the system of health accounts. HC denotes “Health care functions” and HF stands for “Financing Agents”.

Source: System of Health Accounts (2019) (<https://www.gbe-bund.de/gbe/>)

Figure 12: LTCI spending on institutional care has been gradually replaced by spending on home-based care and support for informal caregiver, 2000-2020



Note: The category “other” includes, e.g., pension contributions for informal caregiver (5%) and a contribution to a provident fund to support future expenditures.

Source: Federal Ministry of Health

In our next step, we focus on the costs of informal care. These costs are more difficult to quantify since a large share of care is unpaid and care provision is unregistered. Two main approaches are used for the quantification: opportunity cost method and HHA (home help assistant) cost method. The opportunity cost method estimates the opportunity cost of time of caregivers while the HHA cost method uses the average cost of (comparable) formal caregiver to obtain an estimate of informal caregiver cost. These are the costs to pay for a professional instead of an informal caregiver. We use two approaches to give a lower and an upper bound for HHA estimates. HHA (1) uses the minimum wage for a home help assistant while HHA (2) uses the average wage of a trained home care nurse.



We use data from SOEP to estimate employment and wage equations based on a set of characteristics of caregivers (age, sex, education, region, migration background, marital status, working experience, unemployment experience, number of kids, health, and if the person in need of care lives in the same household). These data allow us to predict the probability of working and the wage conditional on working for each caregiver. Two methods are applied to compute such number. The first one is the “opportunity cost” method. It consists in multiplying each caregiver’s hours provided by their predicted wage times and their probability of working. Using this method, the average caregiver wage would be 18.60 euro per hour if they were to work, but only about 60% of all caregivers would work if they did not provide care. The unconditional hourly wage is at 10.9 euro. The second method is the “HHA”. In this method, we add the informal care hours multiplied by the probability of not working and multiplied by (1) the minimum wage of an home help assistant (12.50 euro/hour) and (2) at the average wage of a nurse working for a home health agency (16.90 euro/hour). Finally, we multiply the cost estimates by 0,76 which is the fraction of home care recipients who are over age 65.

As a result of these methods, the total cost of informal care ranges from 29 to 47.4 billion euro per year (Table 21).

Finally, by combining results of Table 20 and 21 (column HHA 1), we can compute the total cost of both formal and informal care and disentangle between cost publicly and privately supported (Table 22). It shows that the cost of nursing home is largely publicly financed (60%) while the cost of home care is mostly publicly financed (83%). This changes if we add opportunity costs of informal care. Here we assume the HHA (1) approach and value provided hours using the minimum wage of a home help assistant. This results in an estimate of about 60 bio. euro per year, i.e., about 41% of total expenditures. All in all, the majority of long-term care cost are privately funded (58% of all costs). If we apply the opportunity cost approach. the estimation would be slightly smaller. If we assume a higher hourly wage rate as in HHA (2), the estimated share of private financing would be even higher. We also show expenditures relative to GDP. Total

expenditures amount to between 2.6% and 3% of GDP if we include cost of informal care which amounts to between 0.8% and 1.2% of GDP depending on the valuation approach.

*Table 21: Informal Care Valuation*

	Estimation approach		
	opportunity cost	HHA (1)	HHA (2)
Total Valuation (LTC recipients 65+, in bio. euro per year,)	29	42.6	47.4
Total Valuation (in bio. euro per year)	38.2	56.1	62.4
Total Hours Informal Help (bio. hours per year)	3.5	3.5	3.5
E(Work)	0.59	0.59	0.59
E(Work)*E(Wage)	10.9		
Hours of Working Caregiver (bio. Per year)	1.4	1.4	1.4
Hours of Non-Working Caregiver (bio. Per year)	2.1	2.1	2.1
E(Wage   employed)	18.6		
Minimum wage home care worker		12.5	
Average wage home care nurse			16.9

Notes: Opportunity costs with wage estimation based on SOEP (data from 2019); we value hours of working and non-working caregivers with predicted wage times probability of working. HHA (1) adds informal care hours multiplied by the minimum wage for a home care worker without experience multiplied by the probability of not working. In the HHA (2) approach we use the average wage of home care nurses (see Table 15) multiplied by the probability of not working.

Source: SOEPv36

Table 22: Total Costs in Billion euro by Type of Care and Source, 2019

Care Type	Source	Opportunity cost		HHA (1)	
		Cost (bio. euro)	% of GDP	Cost (bio. euro)	% of GDP
Nursing Home	Public	18,3	0,53	18,3	0,53
	Private	12,7	0,37	12,7	0,37
	All	31	0,90	31	0,90
Home Care	Public	25	0,73	25	0,73
	Private	5	0,15	5	0,15
	All	30	0,87	30	0,87
Informal Care	Private	29	0,84	42,6	1,24
	Public	43,3	1,26	43,3	1,26
Total	Private	46,7	1,36	60,3	1,75
	All	90	2,62	103,6	3,02

Source: Own calculations based on Table 21 (opportunity cost approach and HHA (1)) and System of Health Accounts (2019) (<https://www.gbe-bund.de/gbe/>). Germany's GDP amounted to 3,436 bio. euro in 2019. Total spending was adjusted for spending for people aged 65 and older.

## Conclusion

The population in Germany is amongst the oldest in the world and it is expected to continue increasing, resulting in a strong increase in the share of people aged 85 and older. This has severe consequences for the organization and the financing of long-term care. To better understand the challenges for the long-term care system in the next decades, this chapter provides an overview of the current state of long-term care and the long-term care system in Germany.

About 60% of the population aged 85 or older report having limitations in ADLs and/or IADLs; more than 15% report three or more limitations in ADLs. We show that financial

resources are distributed very unequally within this age group. We observe no or relatively low levels of wealth for the lower half of the income distribution. The data also suggest that individuals with lower incomes are more likely to have limitations in ADLs. This corresponds to a higher poverty risk, which is about 10 percentage points higher for individuals with more than three limitations as compared to the average poverty risk in their age group. We find also evidence of a higher risk to suffer from depression. For those aged 85 and over, the average prevalence is 37%, which is ten percentage points higher than for the 65+ population. It increases to 59% for those individuals who have more than three limitations. These general patterns are further supported by measures of quality of life and loneliness where life quality decreases with age and limitations and loneliness increases with age and limitations.

Nearly 50% of all individuals older than 65 receive some type of care. Their share increases to 80% for the group of individuals older than 85. The age gradient persists when focusing on individuals with one ADL. Among those with two or more ADLs, the share of individuals receiving care is above 90%, irrespective of age. Unpaid informal care inside or outside the household is, at 54%, most common for individuals older than 65. Only 7% live in a nursing home. At the age of 85 or older, about 17% of those individuals who need care reside in a nursing home while the share of informal care as the only source of care is reduced to 21%. The type of care also strongly depends of the health status and the number of limitations in IADLs and ADLs.

Formal care is provided either in nursing homes or as ambulatory care through home health agencies. Since 1990, spending on long term care relative to GDP has been constantly increasing from about 1% to 2% in 2019, when the total cost of nursing home and home health agency for the 65+ reached 60 billion euro. Half of this amount is for nursing homes, while it covers only 22.5% of elderly using these institutions. Formal care is mostly financed by compulsory public long-term care insurance, which was introduced in 1995 and has been extended since, while private long-term care insurance only plays a minor role in financing the long-term care system. In addition, co-payments for nursing

homes are required and a large part of care services is provided informally by family members. Out-of-pocket spending differs greatly between modes of care. Out-of-pocket expenditures make up only about 7% of total expenditures for home care. In nursing homes, 41% of expenditures are out-of-pocket payments.

Individuals eligible for benefits from the public long-term care insurance are classified into one of five care levels. Both psychological and physical limitations are integrated in the assessment, which is carried out by the medical advisory service of the statutory health insurance funds. Recipients can choose among different benefits: cash benefits, benefits in kind, and benefits for nursing homes. Additionally, multiple schemes have been designated to relieve relatives who provide care.

Most formal care providers have some formal qualification. The share of trained nurses in ambulatory care is close to 50% and lower (35%) in nursing homes. In 2019, Germany had 15,380 nursing homes. This capacity is sufficient for roughly 40% of the population aged 85+. There is no large regional variation in occupancy rates or number of beds.

Informal care is also a large part of the LTC supply. The elderly aged 65+ (resp. 85+) declare 2.32 times (resp. 1.8) more informal than formal caregivers for help with ADLs and IADLs.

According to our results, nearly 60% of the cost of nursing home care is publicly financed, while more than 80% of the cost of home care is publicly financed. In addition, we estimate total expenditures for formal and informal care by estimating a price for provided informal care. If included in the calculation, informal care amounts to about 40% of total expenditures. According to this calculation, the value of informal care amounts to about 1% of GDP. That is, the majority of long-term care spending, about 60% of all costs, is private. Given that part of the expenditures on home care consists of the long-term care allowance, one could argue that this aims to cover the cost of informal care. According to our estimates, the value of informal care ranges between 29 and 47 bio. euro per year. The expenditures on the nursing care allowance amounted to about 12 bio.

in 2019. In addition, the long-term care insurance paid about 2.4 bio. euro on pension contributions for caregivers. Even this rough comparison shows that, by and large, informal care is provided without or with low financial compensation.

Policy needs to address the pressing challenges related to long-term care. On the one hand, it is important to meet the increasing demand for long-term care. One option is to further increase public spending via financing through social security contributions or the tax system. These are, however, already high in an aging Germany. Since private long-term care insurance in Germany is still of minor importance, as documented in this chapter, expanding private long-term care insurance might be more promising. This is recommended by the Council of Advisors to the German Economics Ministry. The introduction of a compulsory private long-term care insurance would increase the financial stability of the German social security system but may have negative distributional effects. In this context, it is important to make sure that households with low incomes can afford to buy private insurance plans. This may require direct subsidies.

On the other hand, public policy needs to increase the supply of long-term care providers. Given that the work force is ageing and that a shortage of labor is already a concern in many sectors, this is a big challenge for formal care provision. Therefore, the importance of informal care will further increase, requiring support from the government, specifically through policies that allow for combining informal care provision with full- or part-time employment.

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