Gabriele Doblhammer · Rembrandt Scholz (Ed.)

Ageing, Care Need and Quality of Life

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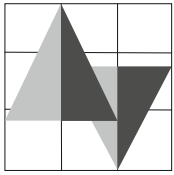

Demografischer Wandel – Hintergründe und Herausforderungen

Herausgegeben von

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Unsere Gesellschaft verändert sich tiefgreifend: Immer mehr Menschen erreichen in Gesundheit ein hohes Lebensalter, immer weniger Kinder kommen zur Welt, neue Partnerschafts- und Familienstrukturen entstehen, Menschen wandern über regionale und nationale Grenzen hinweg. In Zeiten einer alternden und schrumpfenden Bevölkerung sind neue Entwürfe für Biografien, für das Zusammenleben, für den Arbeitsmarkt, für den Wohlfahrtsstaat aber auch für die Regional- und Stadtplanung gefragt. Mit dieser Schriftenreihe wollen die Herausgeber zur verantwortungsvollen Diskussion um die Hintergründe und Herausforderungen des Demografischen Wandels beitragen und aktuelle Forschungsergebnisse in kompakter, allgemein verständlicher Form darstellen.

Gabriele Doblhammer
Rembrandt Scholz (Ed.)

Ageing, Care Need and Quality of Life

The Perspective of Care Givers and People in Need of Care

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Preface

Steadily increasing life expectancy is one of the great achievements of industrialised societies over the last century. Life expectancy has not only been growing among the young and those reaching retirement age, but also, especially in recent decades, among people ages 80 and above. These improvements in life expectancy have led to the emergence of the so-called third age, when people retire, but are still youthful, healthy and able to participate in society. Nevertheless, closer to the end of life, a fourth age of decrepitude and dependence on others has to be anticipated. Despite the postponement of functional limitations and severe disabilities into higher ages, the debate continues over whether the additional years gained are healthy years, or years with severe care need, particularly among the oldest old, the fastest growing segment of the population.

Future improvements in life expectancy and the health status of the elderly will determine the need for care in the future. While different assumptions about these trends based on expert opinion or the extrapolation of past experiences can be made, there will always be a degree of uncertainty about future trends. A third important factor driving the extent of future care need is, however, already determined by the history of the past century and is embedded in the age structures of our populations. From 2030 onwards, the large cohorts of the baby boomers, or those born between 1950 and the middle of the 1960s, will reach ages at which the need for care may be expected to rise. Care need projections extending up to 2030 do not include the ageing of the baby boomers, and therefore do not account for the likelihood that the growth in the need for care may be much steeper after 2030 than before.

But it is not just cohort sizes that have varied over the last century; individual biographies have also changed, and the elderly of the future will differ from today's older people in many respects. Patterns of family formation and dissolution have undergone an extensive transformation. Childlessness decreased among those cohorts born at the beginning of the 20th century to those born in the 1940s, only to increase again among later cohorts. Educational achievement, income and labour force participation, particularly among women, changed from cohort to cohort. If we want care need projections to go beyond the sheer numbers, these changing characteristics have to be taken into account.

This book is an attempt to combine the expertise available in the field of health, care need and care resources, with a strong focus on Germany, but also including other European countries, such as the UK, Belgium and Finland. It is divided into three parts. The first part presents various care need projections for Germany. The data bases used and methods applied, as well as the underlying assumptions and diverse main focuses, lead to a variety of innovative projections of future care need. The second part deals with trends in health, care need and care

need determinants. Changes are explored at the individual level, as well as for population averages. Finally, the third part is devoted to an equally important topic: the care providers, their living circumstances and their quality of life.

Part 1 opens with care need projections for Germany at the federal level up to 2030 and for the Länder up to 2020, carried out by Heiko Pfaff. Based on the 11th coordinated population projection of the Federal Statistical Office, Pfaff developed two different scenarios for predicting the future course of care need: one scenario of stable and one of declining care need prevalences. His findings project an increase in the number of people in need of care in both scenarios, but a dampening effect of the decreasing prevalences of poor health. Furthermore, the results anticipate a very high increase in care need in the eastern part of Germany, especially Mecklenburg-Western Pomerania and Brandenburg and the lowest increases in the city-states of Bremen and Hamburg. Eckart Bomsdorf, Bernhard Babel and Jens Kahlenberg develop four different scenarios for future population trends, while conducting probabilistic population projections up to the year 2050. They assume two scenarios of trends in health, one with constant and one with decreasing prevalences of care need. Additionally, they carry out a sensitivity analysis that examines the impact of different parameters on the future need of long-term care. The results show an increasing need for long-term care in absolute and relative terms. Life expectancy is shown to have the strongest effect on future care need trends, while fertility and migration are found to have only slight effects. To what extent is the increase in care need a consequence of the changing age distribution up to the year 2020 and to what degree can improvements in the health of the elderly compensate for the increase? Rainer Unger addresses these questions in a cohort analysis and finds – in contrast to all other studies in this book – that improvements in health, measured as decreasing prevalences (here for women) up to 2020, result in a decline in the number of women in need of care. His analysis is based on the population projections of the Federal Statistical Office of Germany and on data from the German Socioeconomic Panel (GSOEP) on cohort-specific health transitions. Whether and to what extent demand for and supply of care will change in the near future is the main focus of the dynamic household projection, "Future Elderly Living Conditions In Europe" (FELICIE). The core objective of this study, by Gabriele Doblhammer and Uta Ziegler, is to forecast the need for care among the population aged 75+ by family status and childlessness through 2030, while applying two assumptions regarding future trends in care need prevalences. Results of this study show that the demand for care will rise, but that the potential supply of informal care giving by children and partners will also grow numerically until 2030. Erika Schulz offers projections of the number of people likely to need care while living at home, as well as of the care giving potential within families in Germany through 2050. The projections are based on the DIW population forecasts. In order to measure the future ratio of informal care givers to dependent people living at home,

she takes into account in her analysis household size, family status and the number of children, as well as the labour market participation of women and the changing living arrangements of the elderly. The findings suggest there will be a decline in the number of potential care givers aged 65 or younger and an increase in the number of potential care givers among the elderly. At the same time, the number of people who will require care at home is expected to increase significantly through 2050, especially if better overall levels of health are assumed. The final chapter of the first part focuses on the development of a disease that is attracting considerable attention: dementia. Uta Ziegler and Gabriele Doblhammer pose the question: How will the number and the age-specific prevalence of people with dementia develop in Germany in the coming years? By using three different assumptions for future life expectancy, the authors carry out three different scenarios of population projections through 2050. They apply constant prevalences of dementia and, based on the overall development of healthy life years, prevalences that follow a dynamic equilibrium. The projection results reveal that the number of people with dementia will definitely increase up to 2050, but that the increase is determined more by the development of overall life expectancy, than by the future trend in the prevalence of dementia.

The role of risk factors in the development of the need for care in general and of care determinants in particular, is discussed in the second part of the book. A statistical meta-analysis that summarises existing studies on the effects of sex, obesity and smoking on health transitions marks the beginning of this section. The analysis by Gabriele Doblhammer, Wilma Nusselder, Rasmus Hoffman and Elena Muth shows the connections between risk factors and health transitions. They confirm the common paradox that women, compared to men, have a higher risk of becoming dependent, but exhibit a lower mortality risk. In line with recent findings about obesity, they show that, compared to overweight and underweight people, obese people become disabled more often and have worse chances of recovery, but have lower mortality risks. This is particularly true among the elderly. Linked to the risk of becoming dependent on long-term care in old age is the risk of becoming dependent on acute hospital care. In their analysis, Mike Murphy and Pekka Martikainen discuss the different drivers for these two forms of care and the associated costs. They carry out projections of age distribution for different countries, and focus particularly on four different factors that have a significant influence on the demand for long-term care and hospital care, today and in the future: proximity to death, marital status, sex and age. Observing these influencing factors in a case study with Finnish data, they confirmed that age is a more important determinant for long-term care, while proximity to death is of greater relevance for acute care need. Additionally, they conclude that the marital status differentials and future changes in marital status distribution are substantial for both types of care. The subsequent study by Elke Hoffmann und Juliane Nachtmann focuses on the hypotheses of the compression or expansion of morbidity. By using a scientific use file

of the Research Data Centre of the Federal Statistical Office and the Statistical Offices of the Länder, they published for the first time the prevalences of care need for single age year intervals. The focus of their study is to measure the trend in numbers of life years without care need, as well as the ratio of these years to total life expectancy for men and women between 1999 and 2005. Their main result suggests that, in terms of care need, a "relative expansion of morbidity" occurred during the observed period. In addition to the level of health and disability, which is strongly determined by changes in health status over time, changes in individual pathways can also be seen as factors relevant to the question of whether a compression or expansion of morbidity has taken place. Hence, in the last chapter of the second part, Gabriele Doblhammer and Uta Ziegler study individual health trajectories of West Germans aged 50+ over two time periods (in the 1980s and the 1990s) using data on health limitations in the GSOEP. The results reveal that individual health trajectories have become more similar between the two time periods and that there is a general shift towards better health, with a particularly strong trend towards stable health trajectories that involve minor limitations.

Finally, Part 3 of the book is dedicated to the other side of the care need equation: the care givers, especially the informal care givers. Since informal care constitutes the majority of all care provided to the elderly in Germany - as well as in many other European countries – analysing this increasingly important sub-group in a population is of considerable interest. Benedicte De Koker looks at the well-being of care givers in Flanders/Belgium. The data used stem from a postal survey of informal carers that was performed in 2003. In her analyses, she investigates differences in the levels of perceived burdens experienced by care givers who are either spouses or children and examines to what extent the differences between these two groups could be explained by the different care giving situations they are confronted with. The differences between spouses and children are significant, and it seems as if the emotional relationship between care givers and care takers constitutes a significant factor in care givers' perceptions of the weight of the burden they carry. Tatjana Mika and Michael Stegmann analyse voluntary care giving in the life courses of younger and older female birth cohorts in East and West Germany after the establishment of the public long-term care insurance in 1996. They study how care giving episodes are positioned in the life courses of women and seek to answer the question of whether the implementation of care allowances for informal care at home, and the fact that informal carers get pension contributions from care insurance, influences the decision of women to exit the labour market and care for a family member. The study concludes that compulsory care insurance simply provides a premium to women who have a strong family orientation and who were already periodically engaged in caring for the elderly.

This book is the result of a workshop that took place at the Max Planck Institute for Demographic Research in Rostock in January 2008. Rembrandt Scholz is among

the many people who provided important support in organising the workshop. Many others have helped in compiling and preparing the presentations for publication in this volume. I wish to extend my gratitude above all to the authors of the chapters, who demonstrated considerable understanding and patience in the process of editing and harmonising the various manuscripts. In addition, I would like to thank all those who helped in the preparation of this book. My special thanks go to Juliane Steinberg for organising and editing the texts, to Marlen Toch for formatting and to Miriam Hils for English editing.

Gabriele Doblhammer

Part I: Projections of Care Need and Care Resources

People in Need of Long-term Care: The Present and the Future

Heiko Pfaff

1. Introduction

The demographic projections of the statistical offices predict an increasing ageing of the population in the Federal Republic of Germany over the coming decades (Federal Statistical Office and the Statististical Offices of the Länder 2007(a-d), Federal Statistical Office 2006). This contribution examines what impact the older demographic structure may have on the expected number of people in need of long-term care at federal and Land levels. By way of introduction, the contribution outlines the development of the number of people requiring long-term care from 1999, when the statistics on long-term care were introduced, until today and then describes the principal relationship between old age and the need for long-term care.

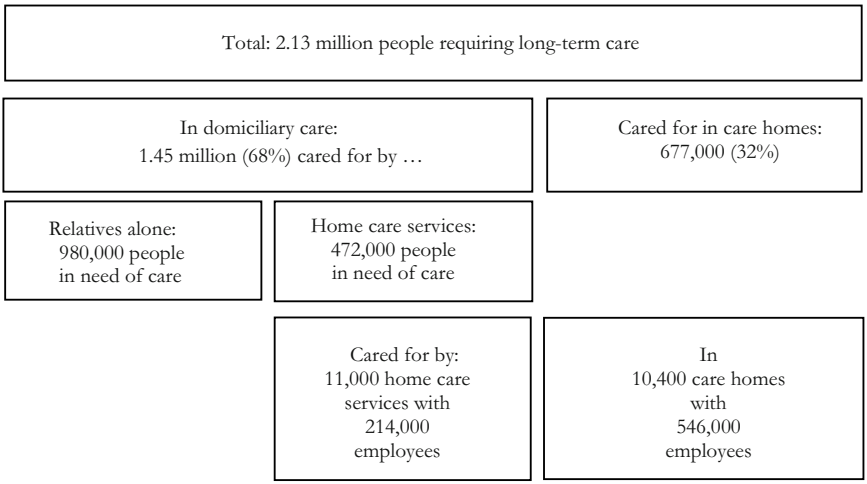
2. In Retrospect: The Development of the Number of People in Need of Long-term Care from 1999 to 2005

In December 2005, a total of 2.13 million people in Germany required long-term care as defined by the Long-term Care Insurance Act. The majority (82%) of them were 65 years old or older, while a third (33%) was aged 85 or over. Women accounted for 68% of those in need of care.

2.1 Persons in Need of Long-term Care by Type of Care

More than two thirds (68% or 1.45 million) of people in need of care received domiciliary care in December 2005. Of them, 980,000 only received long-term nursing care allowances, which mean that, as a rule, they were cared for at home by relatives alone. Another 472,000 people in need of care lived in private households, but received full or part-time home care services. 677,000 (32%) of the people requiring care were accommodated in residential care or nursing homes (Figure 1).

Figure 1: People in need of care in 2005, by type of care



Source: Long-term care statistics of the Statistical Office of the Federation (2007).

Ever since long-term care statistics were first compiled, the number of people requiring long-term care has risen continuously at federal level: From 2.02 million in 1999, it grew to 2.13 million in 2005, which was an increase of about 6%, or 112,000, over that period. The proportion of those requiring long-term care in the total population showed a slight increase from 2.5% to 2.6%. One of the important factors for this increase was the ageing of the population. In 1999, 3.6% of the population were 80 years old or older. In 2005, their share had increased to 4.5%.

A comparison over time shows that there is a trend towards professional care in care homes or by home care services: The number of persons receiving care in residential care or nursing homes rose by about 6% (+36,000) and that of persons cared for by home care services by 5% (+21,000) as compared to 2003. In contrast, the number of those cared for by relatives, i.e., of persons who only received nursing care allowances, decreased by 1% (-6,000). As compared to 1999, residential care increased by 18% (+103,000 people in need of care) and home care services by 14% (+56,000), while the number of recipients of nursing care allowances dropped by 5% (-47,000). This development also led to a decline in the proportion of people in domiciliary care from 72% in 1999 to 69% in 2003 and to 68% in 2005.

Only a small part of this development can be explained by the fact that elderly people who require long-term care tend to be accommodated in care homes and that the age structure of those in need of care has changed somewhat over time. The changing trend may also be seen as an indication that the opportunities for relatives to provide care have started to decline. It is frequently expected that the

opportunities for family-based domiciliary care will be limited in future years, for instance, because of increasing social mobility. Children will be less likely to live close to their parents who may require long-term care. At present, daughters and daughters-in-law are the main care givers who provide the bulk of domiciliary care to family members (see Doblhammer et al., Chapter 7 in this proceedings).

2.2 Explanations of Terms Relating to Long-term Care Statistics

The statistics cover all persons who receive benefits under Book XI of the German Social Code (SGB XI). The general requirement for coverage is that a statutory long-term care insurance fund or a private insurance company has decided that a need for long-term care exists and has assigned the person in need of care to one of the care levels from I to III (including cases of hardship).

As defined by SGB XI, a need for long-term care exists if, due to a physical or mental illness or disability, a person requires frequent or substantial help (Section 15) with normal day-to-day activities on a long-term basis, that is, for an estimated period of six months or longer (Section14 subsection1 of SGB XI).

The category "cared for in care homes" covers all persons in need of care who receive full care (permanent and short-term care) or part-time care (day care/night care) in residential care or nursing homes licensed under SGB XI.

The category "cared for by home care services" covers all persons in need of care who are cared for by home care services licensed under SGB XI (including combined cash and non-cash care benefits or domiciliary stand-in care when the normal carer is unavailable).

The third category "cared for by relatives" covers all persons in need of care who receive nursing care allowances for care helpers they have recruited themselves, as specified by Section37 of SGB XI.

As regards the provision of benefits under the relevant law, persons in need of care have to be assigned to one of the following three care levels (Section15 subsection1 of SGB XI): care level I (considerable need for care), care level II (severe need for care), care level III (extreme need for care).

2.3 The Development of Persons in Need of Care by Care Level

The distribution of care levels has also changed over time: Care level I has become more important since 1999. While about 46% of the people in need of care were assigned to care level I when the statistics were compiled for the first time, the survey of 2005 recorded a percentage of well over 50%. A model computation of the Medical Service of the Central Associations of Health Insurance Funds con-

cludes that one reason for this increase may lie in the fact that persons in need of care remain at care level I much longer than at the other care levels (Medizinischer Dienst der Spitzenverbände der Krankenkassen 2007).

2.4 Past Developments of the Number of Persons in Care at Länder-level

There are significant differences in the development of long-term care in some of the Länder: In the period from 1999 to 2005, the highest increase in the number of people requiring long-term care, at approximately 19%, was observed in the city states of Berlin and Bremen (see Figure 2). High rates of growth were also recorded in Brandenburg (16%) and Sachsen-Anhalt (14%). The increases in Brandenburg and Sachsen-Anhalt can be explained to a considerable extent by the ageing of the population. As regards to the two city states, however, the strong rise was accompanied, in part, by significant increases in the proportions of people requiring care in the individual age groups. This means that only a small part of the rise can be attributed to changes in the demographic age structure.

A slight decrease or marginal increase was observed in Nordrhein-Westfalen[1] (-2%), Hamburg (-1%), Sachsen and Schleswig-Holstein (+2% each) from 1999 to 2005.[2]

The provision of long-term care also varies considerably across the Länder from a structural perspective: Care homes were most important in Schleswig-Holstein, with 40% of all persons in need of care receiving residential care. In contrast to that, only about 26% of the people requiring care in Hessen were accommodated in care homes, while the corresponding percentage for Brandenburg was 27%. The total for Germany was 32%.

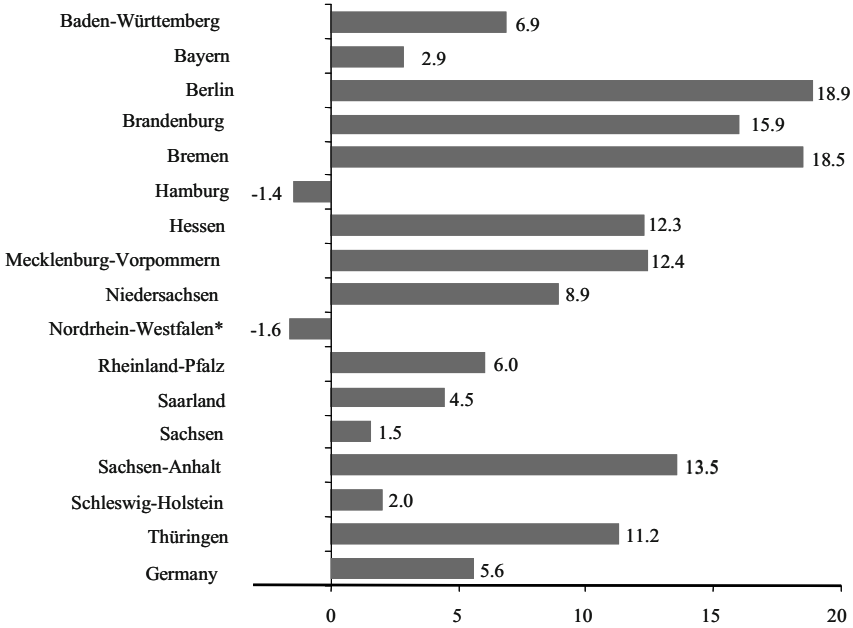
The relatively small proportion of persons in residential care in Hessen can be explained, in particular, by the central importance of family-based care: Some 55% of the people requiring long-term care in Hessen were cared for by relatives alone. The corresponding percentage for the whole of Germany was 46%. In Branden-

1 Concerning the value for Nordrhein-Westfalen, comparability over time is limited; please refer to the methodological note below Figure 2.

2 The regional allocation of people cared for in care homes or by home care services depends on the care home's or service's address. This can have the following effect: A home care service may also attend to persons residing in an adjacent Land. In this case, the persons receiving care are allocated to the Land where the home care service is located and not to their Land of residence. However, these cases are likely to represent only an insignificant proportion of the total number of people in need of long-term care. As regards to persons in residential care, the place where they are cared for is usually the same as their place of residence. Prior to their accommodation in a care home, they may however have moved from one Land to another.

burg, home care services played a notable role, attending to 28% of the people in need of care. The average for Germany was 22%.

Figure 2: Change in the number of persons in need of care from 1999 to 2005, in %



* The comparability over time of the result for Nordrhein-Westfalen is limited because of an adjustment in the register of a long-term care insurance fund in 2003, which involved about 13,000 recipients of nursing care allowances. The adjusted rate of change from 1999 to 2005 was probably around +1%.
Source: Long-term care statistics of the Statistical offices of the Federation and the Länder.

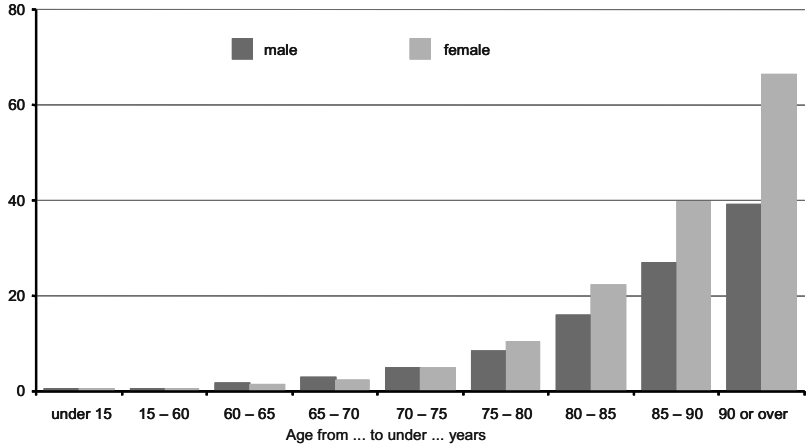
3. Age-specific Rates of Long-term Care in December 2005

As they get older, people are likely to develop a need for long-term care. While "only" every twentieth (5%) of those aged 70 to 74 years required long-term care, the highest rate of long-term care was observed for the people aged 90 years or over. In that age group, the proportion of people requiring care amounted to 60%. It is a remarkable fact that women aged about 80 years or over showed a significantly higher care rate – meaning that more of them needed long-term care – than

men of the same age group. Hence, the long-term care rate for women aged 85 to 89 years was 40%, while it was only 27% for men of the same age group (Figure 3).

Apart from differences in the health development of men and women, one reason for the diverging rates of long-term care may lie in the fact that the numbers of applications submitted vary between men and women. Older women often live alone. If they require care, they may need to apply for nursing care benefits very soon. Men in need of care are often cared for by their wives and initially do not apply for benefits (Medizinischer Dienst der Spitzenverbände der Krankenkassen e.V. 2005).

Figure 3: Long-term care rates in 2005, by age and sex, in %



Source: Long-term care statistics of the Statistical Offices of the Federation and the Länder.

The rates of long-term care vary across the Länder. Regarding to the older age groups, these rates were lowest in Baden-Württemberg, where, for example, the age group from 85 to 89 years accounted for 31% of the people in need of care. Hamburg, too, recorded a long-term care rate of about 31% for that age group. The highest rates were observed in Brandenburg (46%) and Mecklenburg-Vorpommern (47%), i.e., in the northeast of Germany. There, more people seem to develop a need for long-term care in old ages than indicated by the average rate for Germany.

On account of the differences in the age- and gender-related structures of the population and in the rates of long-term care, the proportions of people requiring care in the total population vary as well. In Bremen and Sachsen-Anhalt, 3.1% of the population required long-term care. The corresponding proportion in Baden-Württem-berg was just 2.1%.

4. Development of the Numbers of People in Need of Care in Germany up to 2030 and in the Länder up to 2020 - Status-quo Scenario

4.1 Projection for Germany

The following calculations are based on a simple model: The projection transfers the current status quo of long-term care rates (broken down by sex, stratified according to 5-year age groups and determined for the years 2003 and 2005) to the changed demographic structures in the years up to 2020 (2030 for Germany as a whole). The 11th coordinated population projection of the Federal Statistical Office (viz. the variant representing the lower threshold of the "medium" population) is used to describe the changed demographic structure (Federal Statistical Office and the Statistical Offices of the Länder2007, Federal Statistical Office 2006). The calculation is made for each of the Länder and the federal result is obtained by adding up the Länder results.

As mentioned above, the calculations are based on constant rates of long-term care. Accordingly, no account is taken of possible medical-technical progress in this field. Likewise, the model computation is based on the assumption that the expected increase in life expectancy will have no effect on the long-term care rates in the individual age groups. It is still open to debate whether improved means of diagnosis, therapy and rehabilitation will help to postpone the need of long-term care or whether the increasing life expectancy will only result in longer care periods[3].

An example for a status-quo scenario will reveal the underlying calculation**:** In the years 2003 and 2005, an average of 28.4% of men and 42.2% of women aged 85 to 89 years required long-term care in Hessen. The population projection assumes that 43,660 men and 72,750 women will be aged from 85 to 89 years in 2020. Hence, the following number of people aged from 85 to 89 years can be expected to require long-term care in Hessen in 2020: (28.4% x 43,660) + (42.2% x 72,750) = about 43,000 people in need of care. The total sum for Germany is obtained by adding up the Länder results. To calculate the long-term care rates in the base years, an adjusted number of those aged 90 years or over is used, as in the population projection. This is the reason why the results for this age group differ from those of current population statistics.

All in all, it becomes more and more difficult to predict the development of the major determining factors (and of the demographic structure) as the time from the base date increases. Therefore, the long-term calculation up to 2020 and 2030,

3 As regards this discussion, in particular on the need of long-term care, please refer to e.g., Dietz (2002), Deutsches Institut für Wirtschaftsforschung (2001) and Schnabel (2007) as well as Rothgang (2007).

in particular, is only a model of how the number of persons in need of care will develop if the underlying assumptions turn out to be correct.

The projected data do not distinguish between types of long-term care. This differentiation cannot be made because it is extremely difficult to incorporate in the simple model important factors, like the potential for family-based support, which have an impact on the relationship between residential and non-residential care. Neither are the people requiring care categorised according to care levels as it is hardly possible for the simple, age-related status-quo approach to describe even the current trend towards care level I.

Apart from that, people who require help at a level below or outside the range of benefits specified by Book XI of the German Social Code are, by definition, not included in the calculations. Sample surveys conducted by TNS Infratest (2003 and 2006) have revealed that there are some three million more people in private households who mainly require help with household duties, but do not receive any benefits from long-term care insurance funds. In addition, about 45,000 persons of what is referred to as care level 0 are accommodated in care homes.

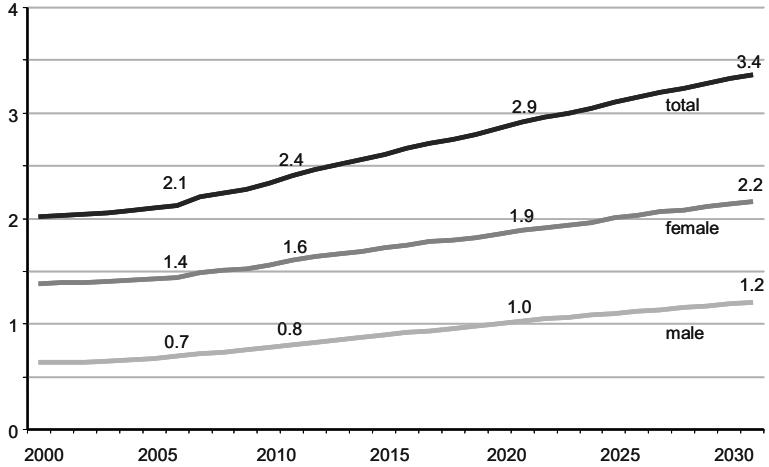
Furthermore, the projection is based on the existing definition of the need of long-term care. The model calculation takes no account of possible changes in the definition or in the corresponding legal bases.

Excursus: Declining Long-term Care Rates from 1999 to 2005?

The assessment of whether the long-term care rates, i.e., the risk of developing a need for care, declined in the individual age groups from 1999 to 2005 is made on the basis of an age-standardised number of persons in need of care in the relevant years. The age standardisation is carried out by transferring the care rates separately by age and sex to the demographic structure of 1987. This provides a standard of comparison to determine whether the need of long-term care – regardless of changes in the composition of the population – has expanded or not.

The results of long-term care statistics obtained so far revealed a slight decline in the age-standardised number of persons requiring care in Germany from 1999 to 2005. Overall, this was due to a slight decrease in the need for care in the individual age groups. In Germany, the age-standardised number of persons in need of care (calculated using single year-of-age groups of the 1987 demographic structure) was 1.61 million in 2005, 1.64 million in 2003 and 1.65 million in 2001. In 1999 it was 1.67 million. This was a decline of less than 4% between 1999 and 2005. (If the effect of the adjustment in Nordrhein-Westfalen in 2003 is also taken into account, the decrease even amounts to less 3%). Subsequent surveys will show whether the slight downward trend is continuing.

Figure 4: People in need of care in Germany from 1999 to 2030 (status-quo scenario), in millions



Source: Statistical Office of the Federation (2007).

In the next few years, it is likely that the ageing of the population will be accompanied by a rise in the number of people requiring care. According to the results of this projection, the number of people in need of care is likely to rise from 2.13 million in 2005 to 2.40 million in 2010. The total is expected to reach 2.91 million in 2020 and about 3.36 million in 2030. If the status-quo model is taken as the basis, the number of people in need of care can be expected to increase by more than a third (37%) between 2005 and 2020 and by 58% from 2005 to 2030. The increase up to 2030 will be higher for men (74%) than for women (50%). At the same time, the proportion of people requiring care in the total population will rise: from 2.6% today to 3.6% in 2020 and, finally, to 4.4% in 2030.

Marked shifts can be observed in the age-related structures: While about 33% of the people in need of care were 85 years old or older in 2005, the relevant age group will account for some 41% in 2020 and for about 48% in 2030. In contrast, those aged under 60 years will account for lower percentages: Their proportion in the total of persons requiring care will drop from 14% in 2005 to 10% in 2020 and to well over 7% in 2030.

Table 1: Persons in need of care from 2005 to 2020 (status-quo scenario)

Land	Persons in need of care, at yearend						
	2005	2010	Change from 2005 to 2010	2015	Change from 2005 to 2015	2020	Change from 2005 to 2020
	1,000	1,000	%	1,000	%	1,000	%
Baden-Württemberg	225	260	15.6	291	29.1	320	42.2
Bayern	303	347	14.7	383	26.4	417	37.8
Berlin	96	102	6.3	114	18.6	128	32.9
Brandenburg	75	86	15.7	102	36.9	118	58.7
Bremen	20	22	6.5	23	14.2	24	20.5
Hamburg	41	45	9.3	49	17.6	52	24.5
Hessen	163	181	10.9	199	21.7	215	31.5
Mecklenburg-Vorpommern	51	60	17.3	70	36.9	80	55.5
Niedersachsen	228	252	10.4	276	21.2	300	31.7
Nordrhein-Westfalen	458	521	13.6	572	24.8	614	34.0
Rheinland-Pfalz	98	110	12.2	121	23.5	130	32.7
Saarland	28	32	13.6	35	23.8	37	31.0
Sachsen	120	138	14.8	155	28.9	170	41.4
Sachsen-Anhalt	76	86	14.0	97	28.0	106	40.3
Schleswig-Holstein	78	85	10.0	94	21.5	104	34.5
Thüringen	67	76	13.9	86	28.4	95	41.8
Germany	2,129	2,404	12.9	2,667	25.3	2,911	36.8

Source: Statistical Offices of the Federation and the Länder.

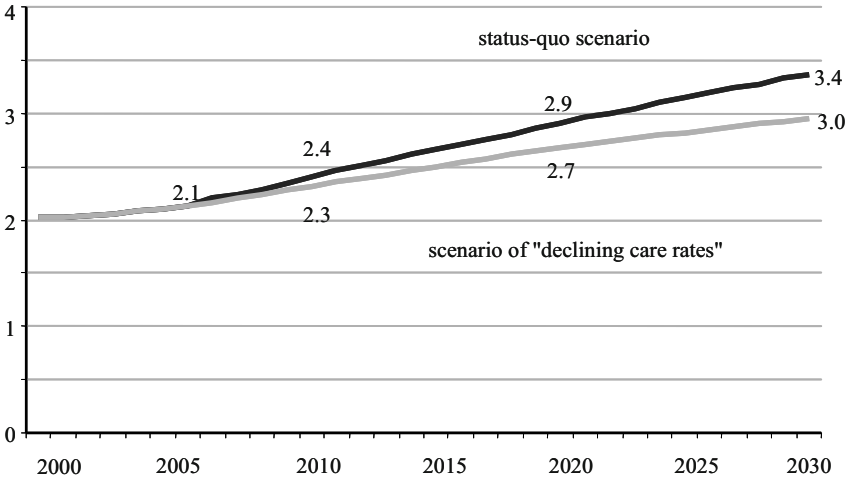
The biggest increases in the numbers of persons requiring care are likely to occur in Brandenburg (+59%) and Mecklenburg-Vorpommern (+55%). Substantially lower rates of growth are observed for the remaining Länder up to 2020. The city states of Bremen and Hamburg show the lowest rates of increase at 20% and 25%, respectively. The overall rate for Germany is 37% (see Table 1).

5. Persons in Need of Care in Germany in 2020 and 2030 - Scenario of "Declining Care Rates"

This more optimistic scenario is based on the assumption that medical-technical progress will reduce the risk of developing a need of long-term care across the age groups. The expected increases in life expectancy in the relevant ages serve as guideline values, which mean that the risk of developing a need of long-term care is postponed to later ages in accordance with the increase in life expectancy. To pro-

ject the numbers of people requiring long-term care, the age-specific rates of care are transferred separately for the two genders to older age groups in accordance with the residual life expectancy.

Figure 5: Persons in need of care in Germany from 1999 to 2030 – Comparison between the status-quo scenario and the scenario of "declining care rates"



Source: Statistical Office of the Federation.

The scenario of "declining care rates" has a dampening effect; however, the total number of people requiring care rises in this scenario as well. A number of 2.68 million can be expected in 2020 according to the projection. In 2030 the number may reach circa 2.95 million. Consequently, there will be an increase of 26% until 2020 and of 39% until 2030.

The proportion of people in need of care in the total population will reach 3.4% in 2020 and 3.8% in 2030 and, thus, will be slightly lower than in the first scenario. Persons requiring care at the age of 85 or over will, however, account for a slightly higher proportion of the total of people in need of care than in the status-quo scenario (2020: 42%, 2030: 51%) (Figure 5).

6. References to other Projections

Over the past years, a number of forecasts of the number of persons in need of care have been published which differ in terms of methodological detail and data sources. Without any claim to completeness, we will briefly describe the following publications:

- A projection published by the DIW (Deutsches Institut für Wirtschaftsforschung 2001) as early as in 2001 used other basic data than those examined in this report.The information on persons in need of care was obtained from the statutory and private long-term care insurance institutions. Due, among other things, to differences in the survey methodology, the numbers of cases recorded by the insurance funds are somewhat lower than those reported by long-term care statistics.4) In addition, the calculations were based on the DIW's population forecast of 1999. In principle, the DIW projection also used a status-quo approach with 1999 as the base year. The calculations suggested a rise in the number of persons requiring care from 1.9 million in 1999 to 2.9 million in 2020. The projection also encompassed the types of long-term care (residential and non-residential) (Results of the DIW projection can be found in Schulz, Chapter 4 in this proceedings)
- In 2003, the Commission for Financial Sustainability in the Social Security Systems published a forecast of the number of people in need of care in the so called Rürup Report (Kommission zur Nachhaltigkeit in der Finanzierung der Sozialen Sicherungssysteme in Bundesministerium für Gesundheit und soziale Sicherung 2003. These calculations were only based on data relating to persons insured with statutory long-term care insurance funds, thereby excluding all those insured with private insurers. The development of the population was based on the assumptions made in that report. The basic model for determining the future number of persons requiring care also used constant rates of long-term care.
- This forecast predicted an increase in the number of persons in need of care from about 1.9 million in 2002 to 3.1 million in 2030. The calculations also included the financial situation of the statutory long-term care insurance funds and the types of care provided.
- In 2006, the Ifo Institute (Hofmann 2006) published calculations using the results of the 2003 long-term care statistics and the 10th coordinated

4 At present, the number of people requiring care determined in this way is some 3% lower. As for the differences, please refer to Statistisches Bundesamt 2007c.