



**AgEcon** SEARCH

RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

*The World's Largest Open Access Agricultural & Applied Economics Digital Library*

**This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.**

**Help ensure our sustainability.**

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

[aesearch@umn.edu](mailto:aesearch@umn.edu)

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

*No endorsement of AgEcon Search or its fundraising activities by the author(s) of the following work or their employer(s) is intended or implied.*

SICHTWEISEN ÄLTERER MENSCHEN AUF MEDIZINISCHE  
VERSORGUNG AUF DEM LAND – EINE EMPIRISCHE  
STUDIE AUS DEUTSCHLAND

Eva Maria Noack & Holger Bergmann

enoack@uni-goettingen.de

Department für Agrarökonomie & Rurale Entwicklung, Georg-August-  
Universität Göttingen, Platz der Göttinger Sieben 5, 37073 Göttingen



2011

*Vortrag anlässlich der 51. Jahrestagung der GEWISOLA  
„Unternehmerische Landwirtschaft zwischen Marktanforderungen und  
gesellschaftlichen Erwartungen“  
Halle, 28. bis 30. September 2011*

## **Abstract**

With demographic change, many rural regions in Germany face the challenge to ensure an appropriate provision of basic services, also for the increasing share of immobile population groups. Among others, the growing number of old and very old people will increase the demand for medical care. Although, on the whole health care in Germany is very good, in some rural areas its provision tends to be difficult. This paper presents findings of an empirical study on older people's mobility options, obstacles that constrain the access to health care and related needs. In-depth interviews were conducted with elderly men and women living in Holzminden, a district in Lower Saxony already massively affected by demographic ageing and shrinking. The analysis reveals high car dependency among the elderly; those who cannot drive are highly dependent to be given a ride to all kinds of activities, including medical appointments. Satisfaction with family doctors is high but many will soon retire and might not find a successor. Access to medical specialists and emergency care turns out to be more complicated. Despite low accessibility, most appreciate the advantages of rural living and nearly none considers leaving the countryside. Yet, those who do not have family living close-by they can call on might be forced to leave rural home once not able to drive anymore.

## **Keywords**

Rural health care, demographic change, accessibility, medical care.

## **Zusammenfassung**

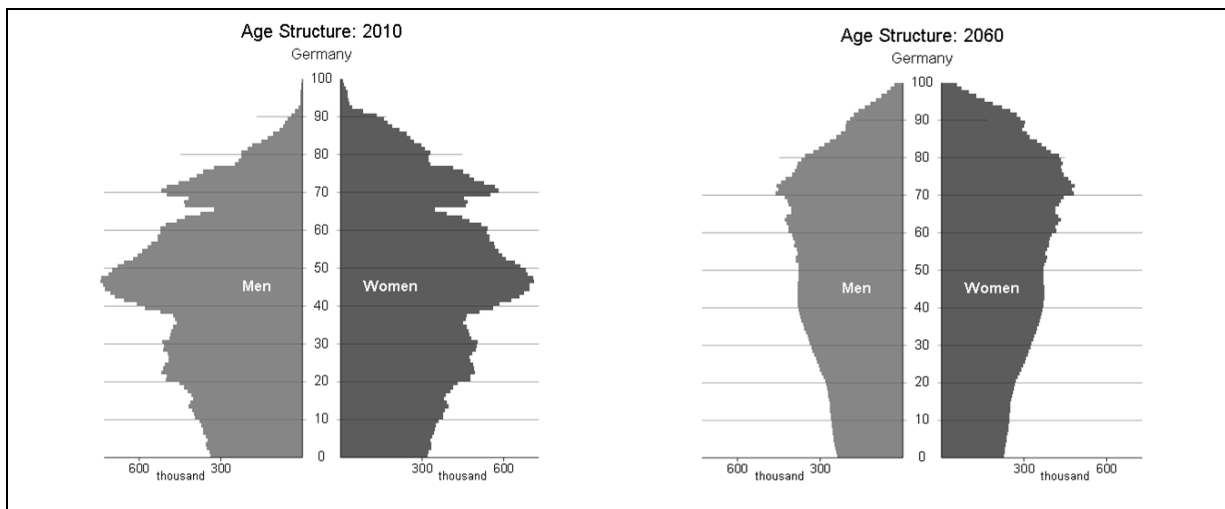
Im Zuge des demographischen Wandels stehen viele ländliche Gebiete vor der Herausforderung, eine adäquate Grundversorgung sicherzustellen, auch für den zunehmenden Anteil immobiler Bevölkerungsgruppen. Die wachsende Anzahl alter und sehr alter Menschen erhöht unter anderem die Nachfrage nach Gesundheitsdienstleistungen. Trotz der im Allgemeinen sehr guten ärztlichen Versorgung in Deutschland ist deren Bereitstellung in einigen ländlichen Gebieten schwierig. Dieser Artikel stellt die Ergebnisse einer empirischen Untersuchung vor, die die Mobilitätsmöglichkeiten älterer Menschen und Hindernisse, die deren Zugang zu medizinischer Versorgung einschränken, analysiert. Es wurden ältere Frauen und Männer interviewt, die in Holzminden leben, einem Landkreis in Niedersachsen, der bereits massiv von demographischer Alterung und Schrumpfung betroffen ist. Die Untersuchung ergab eine starke Abhängigkeit vom Auto; die Nicht-Autofahrer sind darauf angewiesen zu allen Aktivitäten gefahren zu werden. Die Zufriedenheit mit dem Hausarzt ist groß, aber viele Ärzte werden bald in Rente gehen und haben Schwierigkeiten, Nachfolger zu finden. Die fachärztliche und Notfallversorgung stellt sich als schwieriger dar. Trotzdem schätzen die meisten die Vorteile des Landlebens und fast niemand möchte fortziehen. Einige werden allerdings gezwungen sein, wegzuziehen sobald sie nicht mehr Auto fahren können, wenn sie keine Familienangehörigen haben, deren Dienste sie in Anspruch nehmen können.

## **Schlüsselbegriffe**

Ländliche Gesundheitsversorgung, demographischer Wandel, Erreichbarkeit, medizinische Versorgung.

# 1 Demographic change, a challenge for the provision of health care

Demographic developments, especially low birth rates, rising life expectancy and the ageing of the baby boomer generation, lead to an increasing proportion of elderly in Germany's population. Already today, Germany is one of the countries worldwide with the largest share of older people and the trend will be upward in the near future: today, 20% of the population is aged 65 or older. In 2060, this will apply to more than a third of the population and every seventh person will even be 80 years or older (see Fig. 1 and Table 1). At the same time, the total population size will decrease: Germany has reported low fertility rates for years now<sup>1</sup> leading to accelerated irreversible aging and creeping demographic shrinkage (BiB, 2009; RKI, 2006; STBA, 2009b).



**Figure 1: Age pyramids showing age structure in Germany in 2010 and 2060**

Source: STBA, 2009a. Data for 2060 according to the 12<sup>th</sup> coordinated populations projection, medium model. Assumptions: nearly constant birth rate at 1.4 children per woman; life expectancy of newborn children in 2060: 85.0 years for boys and 89.2 years for girls; annual net migration + 100,000 persons.

**Table 1: Population: Age groups in Germany in 2010 and 2060**

Age group /Year	<20 years	20-64 years	65+ years	Total population
2010	18.0%	61.0%	21.0%	81.5 million
2060	16.0%	50.0%	34.0%	64.7 million

Source: STBA 2009a

In many rural, structurally less favoured regions, this trend is intensified by out-migration of the younger generation. Rural depopulation and ageing entail massive changes in the rural spatial structure. The impact of these fundamental demographic changes differs very substantially from region to region. In general, the economically weaker regions are faced with the prospect of further shrinkage while strong regions are likely to have a stable population or even experience population growth. Economically and demographically, there are marked east-west and north-south divides in Germany: despite the massive subsidies that have been poured into the 'new' Eastern federal states ('Länder'), Germany continues to bear

<sup>1</sup> Varying between 1.2 and 1.5 in the last decades, the actual birth rate has been well below the replacement level of 2.1 births per woman, i.e. the fertility rate needed to maintain population stability in the long term.

the marks of the old border that demarcated the political systems. Out-migration still plays an important role; some parts of Germany's needy east are simply drained empty.<sup>2</sup> In the future, Eastern Germany will continue to be one of the main population losers. In the more prosperous west in turn, the southern federal states tend to be better off in relation to the northern part. In the north-west, there are some pockets of economic and demographic disadvantage, like the district of Holzminden (BBR, 2005; 2004; CASSENS ET AL., 2009).

For decades German regional development policy has been based on the goal of 'equivalence' of living conditions.<sup>3</sup> Today, the adjustment of urban and rural living conditions is mainly fulfilled. Yet, ageing and shrinking of the population result – among others<sup>4</sup> – in a dismantling of infrastructures in sparsely populated regions. The maintenance of services and facilities (for example public transport, community centres, post offices) becomes financially unviable, this giving rise to a new disadvantage of rural residences. The greatest issue at stake is to maintain educational and medical infrastructure at the necessary level. The latter presents a particular problem seeing the growing demand for medical care in an ageing population: in old age, as chronic diseases and multimorbidity become more prevalent, people see a doctor significantly more often than at young age. On average, people see a family doctor 4.2 times a year, those over 65 years 6.4 times, those aged 80 to 84 years 8.8 times; variability is high and increases with age (GBE, 2010; NOLL and WEICK, 2008; SCHWEIKART, 2008; STBA, 2004).

The right to live is one of the most important inalienable rights and it implicitly includes the right to a healthy life. Health ranks first when people are asked about the requirements for a happy life. This is also recognized by spatial planning institutions whose main policy objective and field of action is to design the health care system in a way that every citizen has access to adequate medical care. This is where requirement planning comes into play: it calls for a supply structure that guarantees a comprehensive out-patient, hospital and nursing care in compliance with regional conditions. Primary medical care for example has to be reachable in a reasonable period of time (BBSR, 2009). The regional distribution of doctors approved by public health insurance funds<sup>5</sup> ('Kassenärzte') is controlled by accreditation restrictions. Regulating how many doctors are admitted to practice in a planning region, this instrument was originally introduced in 1977 to guarantee sufficient doctors in all regions. In 1993, in times with a growing number of physicians, it was changed in order to prevent more practices in regions experiencing oversupply. Today, instead of oversupply, many regions face a shortage of doctors. Requirement planning is made following calculations by the Federal Office for Building and Regional Planning, which take account of settlement types. Target values were defined for different region types and medical specialisations for 1995. If the density of doctors exceeds the 110% of this target value, there is a moratorium on new medical practices (with few exceptions). Undersupply is assumed if there are 25% less family doctors and 50% less specialists. The target value for population-family-doctor-ratio is nearly equal in all region types: for rural districts 1,474 inhabitants per family doctor is defined as 100%-supply, this ratio being more favourable than in core cities of urban agglomerations (1,585 inhabitants per general practitioner). However, there are huge differences when it comes to medical specialists: a 100%-supply for urologists for example is guaranteed in the

---

<sup>2</sup> In particular, eastern Brandenburg and Mecklenburg-Vorpommern as well as central Sachsen-Anhalt.

<sup>3</sup> Regional Planning Act, Raumordnungsgesetz, ROG 1998, § 2, paragraphs 2.1 and 2.4

<sup>4</sup> For more consequences see for example Statistische Ämter des Bundes und der Länder (2007).

<sup>5</sup> Most Germans (about 85% of the population) are mandatory or voluntary members of the public health insurance providers. [Insurance contributions depend on the income level, are co-financed by employees and employer and include children and spouse.](#) People can opt for private insurances (which often offer additional benefits) if their income exceeds a certain threshold or if they are self-employed. [Even though there are some exceptions, reimbursement broadly follows the 'fee-for-service' system:](#) physicians charge the public health companies for the services they offer the patients. In order to claim costs of services from the health insurances, doctors have to be registered with the panel of the German health insurance scheme; therefore they need to obtain a health insurance accreditation in a planning region.

core cities of agglomerations if 26,641 patients are allotted to one doctor. In sparsely populated areas, this full supply is supposed to occur with a ratio of 55,159 inhabitants per urologist. This suggests that centralisation of medical expertise is politically desired. The system controls primarily the regional distributions of physicians, not the actual demand. Therefore, there can be undersupply even if the target values do not suggest so (KOPETSCH, 2005; SCHWEIKART, 2008).

Although on the whole health care provided under the German system is still good in international comparison, providing residents with comprehensive health insurance coverage, Germany has to meet the challenge to adapt the (primary) medical care system to demographic and structural changes.<sup>6</sup> In spite of rising political awareness of the problematic nature of the provision of health care in rural areas with ongoing demographic ageing and enduring economic problems, very few studies deal with these topics in Germany and little work has been done on the elderly in rural areas.<sup>7</sup>

Identifying ways to meet the health care needs of the elderly is central not only because their number and share of the population are increasing but also because they tend to have more and age-specific health care issues (FENDRICH AND HOFFMANN, 2007; VAN DEN AKKER ET AL., 2001). Moreover, they are more likely to experience limited mobility opportunities and might thus lack access to health care facilities. In fact, the ability to move by foot or by means of transportation is an important precondition of ensuring the ability to lead an autonomous life and participate actively in society according to one's individual needs (BRÖG et al., 2000; MOLLENKOPF, 2003; MOLLENKOPF ET AL., 2005; NOLL and WEICK, 2008; StBA, 2004).

Even so, there is little knowledge of the elderly's mobility opportunities, obstacles constraining their access to health care and their respective needs. Against this background, the aim of this study was to gain a basic understanding of older people's needs and problems in accessing rural health care. Reviewing relevant literature and the current public debate policy recommendation to improve access to rural medical care will shortly be addressed.

## **2 Study design and conduct**

### **2.1 Study area**

The district ('Landkreis') of Holzminden is situated in southern Lower Saxony in Northern Germany. The only 'middle-order centre' is the city Holzminden, the districts capital, which lies quite peripherally in the south. On average, the next core city – Göttingen or Hanover – is reachable in 55 minutes drive time; it takes 43 minutes to reach the motorway (BBR 2010).

The district is 15 to 20 years ahead regarding demographic change compared with other districts in Lower Saxony and Germany. This implies that demographic processes have already begun that are still to come in other regions. Compared with the whole of Lower Saxony, the district has a relatively high share of people aged over 65 years. Population density is quite low: 108 inhabitants per km<sup>2</sup>, which amounts to about half of the German average (229). In the last 35 years, population has declined by approximately 10%. From now until 2021, population is projected to decrease by about one sixth. By then, there will only be 67,000 inhabitants, compared to 76,100 in 2007 and 89,000 at the beginning of the 1970s.

---

<sup>6</sup> Health care expenditures in Germany are rising faster than the gross domestic product (GDP). In 2009, spending on health care amounted to 11.6 % of the GDP, not including private expenses (OECD 2010).

<sup>7</sup> Most research dealing with accessibility of medical care in rural areas centre on the rural space in the so called developing countries or in sparsely populated areas in industrial countries (mainly Australia, Canada, and USA). Many studies focus on ambulatory care of specific diseases or needs (e.g. diabetes mellitus, midwifery, emergency aid, breast cancer). Most works are quantitative studies analysing statistical data. There has been little or no research on people's perception of health care supply and its accessibility.

This development is due to a natural deficit of births on the one hand, and net outward migration, mainly of the young and active generation, on the other.<sup>8</sup> Within the district, there are intraregional differences: between 1968 and 2003 the Samtgemeinde (joint community) Bodenwerder has recorded the lowest shrinkage (-0.7%), while the Samtgemeinde Eschershausen has lost 21% of its population in this 35 years period. These unfavourable demographic developments have an impact on all fields of communal action, ranging from an even more financially limited room for manoeuvre to changing needs for local services and infrastructure. Among others, there is already a falling demand for childcare and schooling, and there will be a substantial increase in the need for senior-friendly housing, residential and domiciliary care, primary medical care and public transport designed according to the requirements of elderly persons (LANDKREIS HOLZMINDEN, 2006, 2010; NLS, 2007).

Following requirement planning there is no shortage of doctors in the district. Doctor-patient ratio was 744 inhabitants per doctor in 2008 (compared to 604 in Germany). Half of the physicians were general practitioners (family doctors); in Lower Saxony this only applied to a third of the doctors. Nearly all specialists practice in the district's capital; there are a few specialists (gynecologists, internists and an ophthalmologist) in rural towns. Also family doctors seem to practice preferentially in larger settlements: about half of the family doctors practice in settlements with more than 5,000 inhabitants, only about 5 % in villages with less than 1,000 inhabitants. Distances people have to travel to doctors' surgeries tend to be higher in the district of Holzminden distances than in other districts of the Weser Uplands (BBR 2010; JUNG ET AL. 2010).

## 2.2 Methodology

Seeing that health has an important psychological component (BÖHM ET AL., 2009; MIELCK, 2003), a qualitative research design was chosen in order to comprehend the individual's perceptions and experience of the subject (see for example GARZ AND KRAIMER, 1991). In-depth interviews were carried out by the first author in various rural locations in the district of Holzminden in the beginning of 2010 with 25 men and women aged over 60 years of different life circumstances. Additionally, four focus group discussions were held, each group consisting of four female participants.

To ensure that topics relevant to the study were discussed and to achieve comparability of the results, an interview guide with open-ended key questions was used to macro-structure the conversations. The guideline covered not only health care issues, such as the provision of medical care and health-related quality of life, but also topics on daily activities and needs, close-by facilities and services and rural living in general.

Following the idea of theoretical sampling (GLASER AND STRAUSS, 1967) our recruitment strategy combined purposeful and snowball sampling techniques. In the process of theoretical sampling, early results form provisional theoretical ideas and serve as criteria to decide what data should be gathered next. New participants are selected on the basis of their potential contribution to the development of a theory or to the validation of a theoretical construct. These samples are thus non-random and mostly small. Theoretical sampling can be considered a form of data triangulation and is associated with the development of grounded theory (see below) (GLASER AND STRAUSS, 2005; DENZIN, 1970; RITCHIE AND LEWIS, 2003).

First, we contacted groups where seniors would be met, such as men's choral societies, Red Cross, seniors' sports groups, handicraft groups, a multi-generation house, and rural women's societies. Then we asked participants to initiate contact to acquaintances with different life

---

<sup>8</sup> Along with Osterode am Harz and Northeim, Holzminden is one of only three districts that are predicted net outward migration in Lower Saxony.

circumstances and/or who might have a different opinion on, perception of, or experience with the matters studied. The aim was to maximize variations within the sample, so that the results can be generalized to a certain extent (DENZIN, 1970; PATTON, 1980). In general it was easier to recruit women for an interview; although one third of the interviewees were male.

Participant interviews lasted between 30 minutes and one hour and were digitally recorded, transcribed and translated into English. Translating the quotations was challenging in that some German expressions do not have direct equivalents in English and many interviewees spoke dialect, ungrammatically and using words in the wrong sense. To ensure the accuracy and consistency of the translations, an English lecturer checked the interview transcripts.

The interviews were constantly analysed using the constant comparative method. Constant comparison, hand in hand with theoretical sampling, is central in inductively developing a theory that is grounded in the collected data, forming and delineating categories, discerning patterns and discovering differences and similarities. New data are constantly compared with previous data, already partly analysed and reflected. Data were discussed to develop a coding framework, at first using 'in vivo codes', reflecting the participants' language. Issues and statements were then coded in response to recurring, contradictory and converging patterns accumulating different key concepts that, in doing so, emerged from the data. These themes were then grouped into formed and delineated categories. Subsequently, these were analysed to provide an explanation (see CORBIN and STRAUSS, 1990; GLASER and STRAUSS, 1967, 2005; MARVASTI, 2004). In the following section, selected categories of the broader, general concepts of health care and ageing in a rural area are presented with quotes to illustrate them.

### 3 Results

Interview places cover 22 out of the district's 32 municipalities; municipalities surrounding the city Holzminden and rural towns were not selected. Distance from the interview places to the district's capital varies between 14 and 35km, whereas a large part of the interviewees live closer (11 to 28km) to towns outside the district and show a clear spatial orientation to these more accessible ones. Only a minority use services and facilities in the district's capital.

Out of the 25 interviewees 16 are women, nine men. Four women are older than 80 years; three of them are widows. Two more are widows; all the other interviewees are married. Except for one man, all have children, most two or three. More than a quarter of the interviewees live in the same house with one of their children (albeit in a different flat). Nearly all live in a household with at least one car but six women cannot not drive. All interviewed 'young elderly' (60 to 70 years old) drive, feel quite mobile and experience little obstacles in accessing health care facilities:

*"That's what people are saying now, the 'new elderly', they will hopefully keep in good health a little longer."* [Interviewee 5], *"If I need something, I drive to the place where it is offered."* [15], *"But many others sit here and spend their time looking around."* [21]

Driving license holders drive until an advanced age out of necessity. Bus services are patchy and not used by any of the interviewees; those who cannot drive are highly dependent on their relatives (mainly on their spouse or children) to be given a ride to all kinds of activities:

*"My children, of course, are ready. And I do have nice neighbours. And acquaintances, still."* [16], *"All that has to be done on a private basis."* [8]

Nearly all participants report that they have been to see a doctor recently and say that they do so quite regularly. Many primarily consult a close-by general practitioners but a large number also need to see medical specialists on a regular basis. Even those who claim to be in good health list several specialists they need to see. Mentioned most frequently are ophthalmologists, dermatologists, urologists, diabetologists, and cardiologists. While rather

satisfied with the family doctor – *“That’s a smart and capable one”* [23] –, most complain about long routes (20-50 km) to medical specialists and hospitals. It requires much time to keep an appointment with a specialist: *“You spent half the day on the road.”* [14]

None declares to resign from treatment in order to avoid the journey. Some even accept longer journey to receive special or supposedly better treatment. Those who cannot drive, *“they have to think twice or they have to arrange with their relatives when they can drive them there.”* [22] Mostly, it is not possible or too complicated to use public transport but neighbours are always ready to help: *“In the village, we help each other.”* [25]

One interviewee reports that in her village, several women founded a group offering honorary transport to medical appointments or to the supermarket *“to those whom relatives cannot drive”* [4]. This local initiative fills the gaps conventional services do not provide.

Some family doctors still make house calls but only if necessary and during surgery hours. According to the interviewees, doctors are not ready to make house calls much anymore because remuneration is too low. All interviewees consider house calls be of high importance even though none of them requires regular home visits, yet. However, several interviewees have experience with house calls through relatives who were in need of care before they died:

*“He also, well in a crucial situation, does make house calls.”* [7], *“They’re not ready to do that much anymore.”* [15], *“If it is absolutely necessary [...] but only when on duty, that is only during consulting hours.”* [21], *“It’s a serious problem if doctors don’t come. You cannot manage to get older people into the car.”* [1]

Many interviewees emphasise positively that their doctor is a local; indeed, the quotations give the impression that a large part of the family doctors originate from the area. Their age structure, though, shows a similar trend to that of the overall population:

*“They are all already about 65, 66, many will quit.”* [10], *“If they hadn’t changed the law, he wouldn’t even be allowed to practice anymore.”* [11]

Fifteen interviewees estimate that their family doctor will retire in the coming years. Only two report that a new family doctor started to practice some years ago. Many doctors have difficulties finding a successor mainly because the region is not attractive for the young:

*“It’s not getting better in the countryside. They all get the hell out of here.”* [7], *“Few young families and few children. Because the infrastructure after all..., there are no jobs. And then it’s obvious that people don’t settle here.”* [21]

Overall, the level of supply highly depends on the location. In some villages health care and other services are still (all interviewees emphasise the word ‘still’ in this context) quite good:

*“In this place here, there is everything – yet.”* [20], *“I think that actually, we are still quite well off. There probably are worse situations.”* [7]

By contrast, *“Here in the village and also in Halle [neighbouring village, ed.] there is basically nothing.”* [4].

In some places *“As to medical care, quite a lot is going pretty badly.”* [17] Some interviewees give vent to their dissatisfaction: *“Let’s be honest, politicians do everything to make it worse and worse here.”* [First sentence of the interview, 14]

Particularly often interviewees express displeasure concerning health care outside consultation hours and emergency care. In some peripheral areas of the district, emergency service for life-threatening situations seems to fail completely.

*“That’s has to do with, how they are positioned”* [20], *“Sometimes it’s very quick, sometimes it can take a long time [...] That they have been waiting for the emergency doctor for half an hour. Having a heart attack one can’t stand that well.”* [14]

In one village it is reported that the system was re-organised recently; now, it is coordinated between districts and the ambulance can be provided from a hospital outside the district.

In less urgent cases patients have to go to the emergency unit in the district's capital which is inconvenient for those living in peripheral municipalities. Three interviewees relate that when they needed treatment at night they refrained from driving to the emergency unit because it was too far away; instead they preferred to wait until their family doctor's consultation hours. Moreover, the doctors on duty can be of any medical speciality and unable to help:

*"Once we got there, my husband had a stomach ache, and then he [the doctor, ed.] said: 'I cannot help you, I am [...] an orthopaedist.'" [21] "That's how it is in the village. There are not so many doctors around after all. Or maybe only the, I don't know what, the foot doctor [...] who hasn't got a clue." [1]*

Two interviewees report that in exceptional cases the local family doctor also attends patients out of surgery hours. In this context one woman speaks highly of the local family doctor:

*"He also comes to you. [...] Well not for every crap, but if you have something serious, he would come. Thank goodness, we still have him. Hopefully, he still goes on living for a while. Someone like him, we'll never get again, like that one. That's someone you can still call a doctor. He would even come on Christmas day or Christmas Eve if it's necessary and wouldn't look at you all weird... He is great. That's Dr [Name]. He's really a brilliant doctor." [24]*

This familiarity is also one of the most appreciated advantages of rural living. The elderly praise the district's landscape and point out quietness, companionship and community spirit.

*"There is nice companionship, which is quite important when you're old. So, living in the country can be nice, too. You just have to make the best of it." [16] "You have to have a positive attitude and must not think, uh, darn, I live out in the middle of nowhere or something like that. You can't do that either." [4]*

Besides, good but declining facilities for families with young children are frequently mentioned. Opinions towards ageing in the country differ, though, with regard to the overall accessibility of supply and services. For some, rural home is the most agreeable place to live one's last part of life:

*"This whole thing, this process of ageing, of course it is most agreeable at home. I don't know if it is always agreeable. Of course there's probably also a drawback." [17]*

Some find it quite hard to experience low accessibility and limited mobility at old age which they did not feel when younger. Even one of the interviewees who drive says:

*"When you're old [...] it is bad in the villages, very bad. [...] When we were younger, we didn't feel it like that. We were out and about a lot. [...] But now, at an old age, one is, you know, it doesn't work like that anymore." [21]*

For the difficult transport situation, the country is not necessarily the place of choice to spend ones evening of life: *"Well, if one cannot drive anymore, it is better to live in a city." [7]*

Even so, nearly none of the interviewees considers leaving the village:

*"Here one has one's social contacts and acquaintances and now, I don't want anymore, I am staying here." [2], "One knows everybody, that's it. On a first-name basis with everyone." [9], "Naaah. One has settled in here. Now somewhere else... You shouldn't shift an old tree." [11], "One is a bit rooted after all, if one has had an own farm here for 40, 45 years." [15].*

Yet, those who do not have family living close-by are aware that they might have to move once they are not mobile anymore. Apparently, adequate accessibility cannot be maintained calling only on neighbours. Most admit that they try to push these thoughts to the back of their minds. Some consider moving to an old-people's home in a rural town close by if necessary:

*"They are building a new old people's home, and then, you just move there and then holidays at the children's place." [2]*

Apparently, they are not in the minority because *“In this small place [...] Bodenwerder [rural town, ed.] alone there are five old people’s homes! Five old people’s homes! In this tiny place Bodenwerder. And crowded! They are all full!”* [4]

Yet, owning property makes it difficult to move away as there are not prospective buyers:

*“If you have your property, like us, it is not that easy to move away.”* [7], *“You cannot sell it [property, ed.] [...] because no one would come here [...] there are not newcomers!”* [21]

So, most elderly people choose to stay:

*“No, I do not want to move again. [...] Only up there, under the green grass.”* [12]

#### **4 Discussion and conclusion**

Mobility is a central aspect for the ability to live independently in old age but with advancing age, maintaining mobility may become jeopardized due to the increasing risk of physical and sensory impairments (MOLLENKOPF AND FLASCHENTRÄGER, 2001). In rural areas, daily mobility opportunities highly depend on the availability of a private car. The share of people having access to a car decreases with age and this more noticeably for women. Overall, the elderly are getting more mobile; however, as this study shows, those who cannot drive are highly dependent on family members to be given a ride to all kinds of activities, including medical appointments. As neighbourly help cannot ensure an adequate level of accessibility, once not able to drive any longer, the elderly might be forced to leave rural home if local basic services and facilities are not sufficient. In old age, the provision of health care gains in importance, even for those who are relatively healthy. About 90% of the German population see a physician at least once a year. Regularity and frequency of consultations increase substantially with advancing age (GBE, 2010; NOLL and WEICK, 2008). The change of the population’s age structure will thus have considerable impacts on the number of doctor-patient contacts that have to be considered in health care policy. Moreover, age-related declining mobility will very likely create a growing demand for house calls (FENDRICH AND HOFFMANN, 2007; VAN DEN AKKER ET AL., 2001). Interviewees attach high importance to house calls but these are problematic due to long travel times, especially in combination with a diminishing doctor-patient ratio. Therefore, in both, ageing and rural areas, doctor-population ratio has to be higher to assure sufficient provision with primary health care. Besides, to ensure access to specialists it is probably ineffective to improve conventional public transport because it can be assumed that – once not able to drive a car anymore – elderly rural dwellers will be more likely to be in need of door-to-door transport to hospital or medical appointments. Therefore, existing alternative volunteer-run schemes should be supported and taken for inspiration for developing innovative demand-responsive schemes.

Even though the majority of patients are already of age, older people’s specific needs have long been neglected in health care policy. Political awareness has increased substantially within the last year and some ideas have already been put into practice. For example a demographic factor is included in requirement planning since November 2010 (KBV 2011). This is certainly a step into the right direction to take into account the actual demand or morbidity of the population in a planning region. Still, requirement planning does neither consider population distribution within a planning region nor does it control the distribution of physicians within the region. Especially medical specialists tend to be concentrated in the regional centres. There is a considerable demand for certain medical specialists among the elderly, such as ophthalmologists, dermatologists, and urologists. Also this demand has to be covered and/or general practitioners may need higher geriatric qualification.

As to the latter, Germany additionally faces the challenge to encourage (young) physicians to live and practice in regions that will be or are already undersupplied. According to the

National Association of Statutory Health Insurance Physicians, 18.1 % of the practice-based doctors were aged 60 or older in 2008. The average age of statutory health insurance physicians was 51.7 years (48.0 years in 1994). In some federal states up to 40% of the family doctors will retire in the coming ten years. As the remaining doctors cannot fully compensate for these, many positions need to be refilled to provide sufficient primary care. However, many country doctors can be expected to experience problems with finding a successor, just as in the district of Holzminden. The rural space is lacking attractiveness and so is the working environment of a country doctors: high workloads due to house calls and on-duty medical service combined with declining profit rates (SCHWEIKART, 2008). At the same time, the countryside offers numerous advantages, such as being close to nature, good facilities for children, low-priced housing, community spirit and elderly patients' high appreciation of doctor's work.

Projects have been launched in two eastern federal states: medical students in Sachsen-Anhalt are given financial support during their studies if they commit themselves to practice the first years after earning their degree in an undersupplied region in that particular state (KVSA, 2010). In Thüringen, young doctors qualifying as a specialist for internal medicine or as general practitioners are supported financially if they work in undersupplied regions (STIFTUNG ZUR FÖRDERUNG DER AMBULANTEN ÄRZTLICHEN VERSORGUNG IM FREISTAAT THÜRINGEN, 2010). These efforts to set incentives for medical students and young doctors to live and work in rural areas have not been well received, yet. Possibly, young people do not want make long-term commitments or financial incentives are ineffective for medical students who generally have sound financial positions.

Whether in the end sufficient supply with country doctors can be attained by such schemes, by higher remuneration in rural areas, by bonuses for house calls or by extra pay for elderly patients is an open question. Improving quality of life also for young people in rural areas is the greatest and possibly only effective incentive.

Obviously, where this has not yet been done a reorganization of the emergency system is necessary to serve also peripheral areas of the district effectively. Whether the observed maladjustment to local and regional needs is a general problem in rural Germany cannot be said here.

Final remark: even though the majority of the elderly are female, gender aspects are often neglected in transportation and health issues. Seeing gender differences, such as the percentages of driving license holders among the elderly (KBA, 2010), differing life expectancy (StBA, 2010) and disease patterns (e.g. BÖHM ET AL., 2009), it is important to keep applying gender sensitive approach in research.

## **5 References**

- BÖHM, K., TESCH-RÖMER, C. and ZIESE, T. (ed.) (2009): *Gesundheit und Krankheit im Alter*. RKI, StBA, Deutsches Zentrum für Altersfragen, Berlin.
- BRÖG, W., ERL, E. and GLORIUS, B. (2000): *Elderly people's travel choices in Germany*. In: *European Conference of Ministers of Transport: Transport and ageing of the population*. Report of the 112<sup>th</sup> Round Table of Transport Economics. OECD, Paris: 43-142.
- BUNDESAMT FÜR BAUWESEN UND RAUMORDNUNG (BBR) (2010) *INKAR: Indikatoren und Karten zur Raumentwicklung*. Bundesamt für Bauwesen und Raumordnung, Bonn.
- BBR (2005): *Raumordnungsbericht 2005*. Selbstverlag, Bonn.
- BBR (Ed.) (2004): *Bevölkerungsprognose 2020*, Bonn.

- BUNDESINSTITUT FÜR BAU-, STADT- UND RAUMFORSCHUNG (BBSR) (2009): Medizinische Versorgung. [http://www.bbr.bund.de/cln\\_015/nn\\_77112/BBSR/DE/Raumbeobachtung/Themen/MedizinischeVersorgung/MedizinVersorgung\\_\\_node.html?\\_\\_nnn=true](http://www.bbr.bund.de/cln_015/nn_77112/BBSR/DE/Raumbeobachtung/Themen/MedizinischeVersorgung/MedizinVersorgung__node.html?__nnn=true) (30.01.2010)
- BUNDESINSTITUT FÜR BEVÖLKERUNGSFORSCHUNG (BiB) (2009): Verlauf der demographischen Alterung. [http://www.bib-demografie.de/cln\\_099/nn\\_750730/DE/DatenundBefunde/Alterung/verlauf\\_\\_der\\_\\_alterung.html](http://www.bib-demografie.de/cln_099/nn_750730/DE/DatenundBefunde/Alterung/verlauf__der__alterung.html) (12.12.2009)
- CASSENS, I., LUY, M. and SCHOLZ, R. (ed.) (2009): Die Bevölkerung in Ost- und Westdeutschland. Demografische, gesellschaftliche und wirtschaftliche Entwicklungen seit der Wende. VS Verlag, Wiesbaden.
- CORBIN, J. M. and STRAUSS, A. L. (1990): Grounded theory research: Procedures, canons, and evaluative criteria. *Qualitative Sociology*, 13(1): 3-21.
- DENZIN, N. K. (1970): *The research act: A theoretical introduction to sociological methods*. Aldine, Chicago.
- FENDRICH, K. and HOFFMANN, W. (2007): More than just aging societies: the demographic change has an impact on actual numbers of patients. *Journal of Public Health*, 15: 345-351.
- GARZ, D. and KRAIMER, K. (1991): *Qualitativ-empirische Sozialforschung: Konzepte, Methoden, Analysen*. Westdeutscher Verlag, Opladen.
- GESUNDHEITSBERICHTERSTATTUNG DES BUNDES (GBE) (2010): Ambulante ärztliche Versorgung in Prozent nach Alter, Geschlecht und sozialer Schicht, 2002/2003. [http://www.gbe-bund.de/gbe10/ergebnisse.prc\\_fid\\_anzeige?p\\_fid=9775&p\\_fund\\_typ=TAB&p\\_sprachkz=D&p\\_uid=gast&p\\_aid=84656145&p\\_prot=1](http://www.gbe-bund.de/gbe10/ergebnisse.prc_fid_anzeige?p_fid=9775&p_fund_typ=TAB&p_sprachkz=D&p_uid=gast&p_aid=84656145&p_prot=1) (02.02.2010)
- GLASER, B. G. and STRAUSS, A. L. (1967): *The discovery of grounded theory: Strategies for qualitative research*. Aldine, New York.
- GLASER, B. G. and STRAUSS, A. L. (2005): *Grounded theory: Strategien qualitativer Forschung*. Huber, Bern.
- JUNG, H.-U. ET AL. (2010) Gestaltung der Daseinsvorsorge im demographischen Wandel für das Gebiet der Regionalen Entwicklungskooperation Weserbergland+. NIW, Hannover.
- KASSENÄRZTLICHE BUNDESVEREINIGUNG (KBV) (2011) Grunddaten zur vertragsärztlichen Versorgung in Deutschland 2010. <http://www.kbv.de/2394.html> (10.07.2011)
- KASSENÄRZTLICHE VEREINIGUNG SACHSEN-ANHALT (KVSA) (2010): Stipendienprogramm für Medizinstudierende: Erste Stipendien vergeben. <http://www.kvsa.de/?cid=116027008144&id=112027000004&> (15.11.2010)
- KOPETSCH, T. (2005): Bedarfsplanung: Geregelt wird nur die Verteilung. *Deutsches Ärzteblatt online*, 06.05.2005: 1-6.
- KRAFTFAHRT-BUNDESAMT (KBA) (2010): Bestand an allgemeinen Fahrerlaubnissen im Zentralen Fahrerlaubnisregister (ZFER) am 1. Januar 2010 nach Geschlecht, Lebensalter und Fahrerlaubnisklassen. [http://www.kba.de/cln\\_015/nn\\_191454/DE/Statistik/Kraftfahrer/Fahrerlaubnisse/Fahrerlaubnisbestand/2010\\_\\_fe\\_\\_b\\_\\_geschlecht\\_\\_alter\\_\\_fahrerlaubniskl.html](http://www.kba.de/cln_015/nn_191454/DE/Statistik/Kraftfahrer/Fahrerlaubnisse/Fahrerlaubnisbestand/2010__fe__b__geschlecht__alter__fahrerlaubniskl.html) (30.10.2010)
- LANDKREIS HOLZMINDEN (2006): Demographie-Bericht für den Landkreis Holzminden. Bertelsmann Stiftung. [http://www.landkreis-holzminden.de/pics/medien/1\\_1156761888/Demographie-Bericht\\_Stand\\_22-03-2006.pdf](http://www.landkreis-holzminden.de/pics/medien/1_1156761888/Demographie-Bericht_Stand_22-03-2006.pdf) (30.01.2010)
- LANDKREIS HOLZMINDEN (2010): Demografischer Wandel im Blickpunkt. Der demografische Wandel als Chance für den ländlichen Raum – Gestaltung einer Modellregion Landkreis Holzminden. <http://www.landkreis-holzminden.de/staticsite/staticsite.php?menuid=391&topmenu=44> (30.01.2010)

- MARVASTI, A. B. (2004): Qualitative research in sociology. Sage, London [et al.].
- MIELCK, A. (2003): Sozial bedingte Ungleichheit von Gesundheitschancen. Zeitschrift für Sozialreform, 49(3): 370-375.
- MOLLENKOPF, H. (2003): Zur Mobilität älterer Menschen. BAGSO Nachrichten, 3: 6-8.
- MOLLENKOPF, H. and FLASCHENTRÄGER, P. (2001): Erhaltung von Mobilität im Alter. Kohlhammer, Stuttgart.
- MOLLENKOPF, H., MARCELLINI, F., RUOPPILA, I., SZÉMAN, Z. and TACKEN, M. (ed.) (2005): Enhancing mobility in later life – Personal coping, environmental resources, and technical support. The out-of-home mobility of older adults in urban and rural regions of five European countries. IOS Press, Amsterdam.
- NIEDERSÄCHSISCHES LANDESAMT FÜR STATISTIK (NLS) (2007): Kleinräumige Bevölkerungsvorausberechnung für die Jahre 2012 und 2017. <http://www.nls.niedersachsen.de/Applet/Prognose/P1000001.HTM> (12.09.2010)
- NOLL, H.-H. and WEICK, S. (2008): Lebenssituation von Älteren. In: Statistisches Bundesamt (StBA), Noll, H.-H. and Habich, R.: Auszug aus dem Datenreport 2008. Bonn: Bundeszentrale für politische Bildung: 193-199.
- ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT (OECD) (2010) OECD Health Data: Selected Data. OECD Health Statistics. OECD, Paris.
- PATTON, M. Q. (1980): Qualitative evaluation methods. Sage, Beverly Hills.
- RITCHIE, J. and LEWIS, J. (ed.) (2003): Qualitative research practice: A guide for social science students and researchers. Sage, London [et al.].
- ROBERT KOCH-INSTITUT (RKI) (2006): Gesundheit in Deutschland. Robert Koch-Institut, Berlin.
- SCHWEIKART, J. (2008): Die große Herausforderung. LandInForm, 4: 12-13.
- STATISTISCHE ÄMTER DES BUNDES UND DER LÄNDER (ED.) (2007): Demografischer Wandel in Deutschland Heft 1. Bevölkerungs- und Haushaltsentwicklung im Bund und in den Ländern. <https://www-ec.destatis.de/csp/shop/sfg/bpm.html.cms.cBroker.cls?cmspath=struktur,Warenkorb.csp&action=basketadd&id=1021430> (07.12.09)
- STATISTISCHES BUNDESAMT (STBA) (ed.) (2004): Datenreport 2004. Zahlen und Fakten über die Bundesrepublik Deutschland. Bundeszentrale für politische Bildung, Bonn.
- STBA (2009a): 12. koordinierte Bevölkerungsvorausberechnung. Animierte Alterspyramide im Internet. <http://www.destatis.de/bevoelkerungspyramide/> (15.12.2009)
- STBA (2009b): Bevölkerung Deutschlands bis 2060. 12. koordinierte Bevölkerungsvorausberechnung. Begleitmaterial zur Pressekonferenz am 18. November 2009 in Berlin. [http://www.destatis.de/jetspeed/portal/cms/Sites/destatis/Internet/DE/Presse/pk/2009/Bevoelkerung/pressebroschuere\\_\\_bevoelkerungsentwicklung2009,property=file.pdf](http://www.destatis.de/jetspeed/portal/cms/Sites/destatis/Internet/DE/Presse/pk/2009/Bevoelkerung/pressebroschuere__bevoelkerungsentwicklung2009,property=file.pdf) (07.12.2009)
- STBA (2010): Life expectancy in Germany. <http://www.destatis.de/jetspeed/portal/cms/Sites/destatis/Internet/EN/Content/Statistics/Bevoelkerung/GeburtenSterbefaelle/Tabellen/Content50/Lifeexpectancy,templateId=renderPrint.psml> (02.02.2010)
- STIFTUNG ZUR FÖRDERUNG DER AMBULANTEN ÄRZTLICHEN VERSORGUNG IM FREISTAAT THÜRINGEN (2010): Thüringen Stipendium. <http://www.stiftung-ambulante-versorgung.de/thringenstipendium/> (15.11.2010)
- VAN DEN AKKER, M., BUNTINX, F., ROOS, S. and KNOTTNERUS, J. A. (2001): Problems in determining occurrence rates of multimorbidity. Journal of Clinical Epidemiology, 54: 675-679.