

# International View on Burden of Disease and Subjective Health of Male Seniors 65+ in Germany, 2015

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## Abstract

**Background:** In the German health surveys of the Robert Koch Institute, over 50% of senior citizens 65+ are said to have very good and good subjective health. Is this assessment correct or is there a bias, since seniors over 80 years of age are hardly reached in health surveys?

**Methods:** In answering this question, official data from the Federal Statistical Office and statistical publications in Germany and the European Union as well as the men's health reports published in Germany were analysed. An important data source on Global Burden of Disease (GBD) of the Institute of Health Metrics and Evaluation (IHME) was included in the review.

**Results:** The data on the health situation of seniors change strongly in older age groups, at the same time the subjective health sinks. In a European comparison, the healthy life expectancy of men aged 65 and over in Germany is significantly lower than 14.1 years in Sweden at 6.9 years. Only 39% of the further life expectancy of 65-year-old men in Germany lives in good subjective health, compared with 77% in Sweden.

**Conclusions:** In official statistics and health surveys it is not sufficient to have senior citizens over 65+ in one group. Due to demographic ageing, it is necessary to publish better overviews of the health situation of 65+ seniors by age groups. With the method inventory of IHME the influence of risk factors and diseases on the quality of life can be calculated. This provides a good basis for concept development and prevention programmes to further improve the quality of life of seniors.

**Keywords:** Burden of disease (BoD); Subjective health; Seniors 65+; Men's Health; Risk behaviour of seniors; Healthy life expectancy; Disability Adjusted Life Years (DALY's)

## INTRODUCTION

In a previous publication [1], the subjective health of male seniors was analyzed up to the year 2013. 52% of seniors in Germany estimated their health as very well and well. But what is the health of the other half of the male population 65+? And might there be a bias because you can only reach a part of the high-aged population, because many of them are not included in interviews because of dementia or need for long-term care.

In a current analysis of official data and health reports up to the year 2015/2016 we made an attempt to assess the on-going health situation of male seniors [2]. The analysis includes actual data sources, such

as the pre-calculation of the population by 2060, and official morbidity, mortality statistics and statistics of persons in need of care as well as an overview of "Older people in Germany and the European Union" [3]. The Third Men's Health Report of the Men's Health Foundation [4] shows the close relationship between the sexuality of men in different age groups and chronic diseases and disabilities, which can severely affect the quality of life.

Data about hospital morbidity, care, severely handicapped people and mortality shows the increased coefficients of all morbidity and mortality indicators with higher age groups [2]. The goal of the underlying analysis is an international

comparison of health status of seniors 65+, especially of the analysis of Burden of Disease for Germany (BoD) of US Institute of Health Metrics and Evaluation (IHME) [5] and the results of the European Health Interview Survey (EHIS), the analysis “Where does Germany stand in international comparison?” (Wo steht Deutschland im internationalen Vergleich?) [6].

### MATERIAL AND METHODS

The following publications were included in the analysis.

- a. Men’s Health and of the Robert Koch-Institute [4; 7]
- b. Publications of the Robert Koch-Institute (RKI) [6; 8]
- c. Publications of the Federal Statistical Office Germany [9; 10; 3]
- d. Publications of the Institute of Health Metrics and Evaluation (IHME) about “Global Burden of Disease”, (GBD) [5]

The Burden of Disease (BoD) is a cumulative measure that combines epidemiological information and estimates of morbidity, mortality and the impact of risk factors into one unit of measurement, thus making heterogeneous disease status comparable on a national and international level.

The available data from 2015 have been extracted from the published data files and prepared for the publication, i.e. for calculation of age specific rates of seniors: 50-69 years and 70+ years by sex.

The comparison between 1990 and 2015 shows the development of the most important morbidity indicators and health risk factors for males over the past 25 years. The risk factors incorporate metabolic risks, behavioural risks and environmental/occupational risks.

### RESULTS AND DISCUSSION

#### Overview of the situation

##### *Demographic data on senior citizens in Germany and in the European Union (EU)*

At the end of 2015, 82,175,700 people, 40,514,100 men and 41,661,600 women lived in Germany. At the age of 65+ 17,300,200 people lived. Compared to 1990, the 65+ population increased by 43% in Germany. There are considerable differences between the 16 Federal States in the share of senior citizens: The State of Saxony-Anhalt has a maximum of 25%

of the population aged 65+, while Hamburg has only 18.9% senior citizens [3].

In Germany, the ratio of the young generation to the elderly has been reversed since the early 2000s because of the low birth rates: the strongest age groups are the elderly.

The latest forecast of the population in Germany in 2015 [10] concludes that the further life expectancy of 65-year-old men will be 22 years by 2060 and that of 65-year-old women will be 25 years. This equates to four additional years of life compared to the population level of 2013.

This means that the proportion of the 65+ population will rise from the current 21% to over 30%. The number of over-70s could double by 2060, and the number of over-80s could rise from the current 4.4 million to more than 8 million [10].

The at-risk-of-poverty rate of senior citizens in Germany is 16%, which is in the midfield of EU countries (5% Hungary to 33% Estonia, EU average 16%) [3].

As a poverty risk criterion, the following is assumed: People at risk of poverty have less than 60% of the average income (including transfers).

##### *Life expectancy of men 60+*

Further life expectancy of men 60+ is 21.62 years for Germany in 2014/2016, and for women 60+ 25.32 years [11]. This puts Germany in the middle of the EU. The highest life expectancy in men 60+ is found in France, Italy and Spain at over 23 years, while the lowest life expectancy of seniors is found in Bulgaria, Latvia and Lithuania at 17.2 to 16.7 years. The situation is similar in the case of the female seniors 60+: the highest further life expectancy is also found in the countries of France, Italy and Spain with 28.4 to 27.3 years, while the lowest life expectancy is found in Hungary, Romania and Bulgaria at 22.5 and 21, 7 years [3].

##### *Satisfaction with health*

While EU citizens’ health satisfaction was 45% for the 65-74 year olds (Germany 45%), for the 75-84 year olds it worsened to 21% in the EU and 15% in Germany. Men in the EU are happier with their health than women. Subjective health is rated as good in 60% of EU countries with a high educational level in the age group 65-74 years old, compared with only

36% among EU citizens (65-74 years) with low educational level [3].

### **National view on health and health behaviour of male seniors in Germany**

#### ***The growing burden of morbidity with age in Germany***

How healthy are the older people? : that's a chapter heading in the "Third German Health Report 2015.

The article's summary highlights the following points:

- The age-related increase in chronic disease, physical and cognitive impairment, falls, and multi-morbidity determine the specific care needs of older people
- Suicide rates are rising, especially in males
- Simultaneously use of five or more drugs in the elderly increases the risk of adverse drug reactions.

The good estimation of the subjective health of the 65+ population with over 50% and with still 40% of the 70-84-year-olds is a positive criterion of well-being in older age. The editors (Robert Koch-Institute) points out that the citizens in nursing homes and over 85-year-olds are almost completely ignored in the surveys.

Diabetes prevalence among men over 75 years old is around 20% of the age group, the prevalence of musculoskeletal disorders is 35% in men, 47% in women and chronic bronchitis at around 10%. More than 30% of over-90s suffer from dementia. More than 7% of people over the age of 75 suffer from clinically significant depression and the prevalence of subclinical depressive symptoms is 17%. Thus, on the basis of the RKI health surveys, multi-morbidity is reported in 82% of women and 74% of men over 75 years of age. Over 95% of 65+ retirees wear glasses, 17% are hearing badly. On average, 54% of those in need of care are affected by toothless. The supply of dentures is described as insufficient for those in need of care. 23% of over-60s suffer from urinary incontinence, in nursing homes the proportion is much higher [12].

Half of over-75s suffer from muscular dystrophy, which is an increasing physical weakness, which in turn leads to accidents on the one hand and long-term

care on the other hand. About 50% of persons 65+ live with disabilities [12].

#### ***Sexual Health of seniors***

The Third German Men's Health Report addressed the connection between sexuality of men and their state of health [4]. Neither in official statistics nor in German health surveys questions have been asked about sexuality. According to WHO's original 1975 definition, "sexual health is the integration of the somatic, emotional, intellectual and social aspects of sexual being in a way that positively enriches and strengthens personality, communication and love" [4; p. 18].

30 to 44% of men (all age groups) are not satisfied with their sexual life, as Theodor Klotz stated in the men's health report. Erectile dysfunction, depending on the age of 10% in the 40-49 year old men up to 55% in the men 70+, leads to disturbances in the well-being and in the quality of life. Erectile dysfunction is often linked to chronic diseases such as cardiovascular diseases and diabetes. Functional sexual dysfunctions in old age, increase of chronic illnesses and of depression, loss of the partner, sexual needs in nursing homes are discussed by K. Seikowski "Sexual health in old age - counselling and therapy" [4].

#### **International view on the health situation of seniors 65+**

##### ***Calculations by the Institute for Health Metrics and Evaluation (IHME - USA), for seniors 65+, Germany, 1990 and 2015***

The calculations are from the Institute for Health Metrics and Evaluation (IHME), USA, based on country data and estimations. Data are available for men aged 50-69 and for men 70+ by 1990 and 2015 for risk factors and for morbidity [5].

The focus will be on the relationship between behaviours (health behaviour) and health. Behaviour of the population can be influenced by each individual person and by government programs, e.g. prevention programs. Behaviour is measured as risk factors that affect health. IHME distinguishes three groups of risk factors: metabolic risk factors (high blood pressure, BMI, blood glucose and hypercholesterolemia), environmental factors and workloads, and individual behaviours (smoking, eating habits, physical activity). For each country, IHME evaluations can be performed

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on the basis of risk factors, diseases and causes of death. Some risk factors have increased in importance for older men in Germany from 1990 to 2015, i.e. within 25 years: Smoking (position 1) and diet with the items vegetable and fruit consumption (position 2) remain the highest priorities in the ranking for the 50-69-year-old men from 1990 to 2015 shifts in

body mass index, which climbed from 5th to 4th place (Table 2). Alcohol and drug use also rose from 6th to 5th place.

The leading risk factors for men affecting the morbidity of 50-69 year olds in 2015 are smoking, eating habits, high blood pressure and high BMI measured in DALY's (Tab. 1).

**Table 1.** Ranking of the most common risk factors affecting the DALY's, men 50-69 years, Germany, 1990 and 2015

Ranking	1990	2015
1	Tobacco	Tobacco
2	Dietary risks	Dietary risks
3	High systolic blood pressure	High systolic blood pressure
4	High total cholesterol	High body mass index
5	High body mass index	Alcohol and drug use
6	Alcohol and drug use	High total cholesterol
7	High fasting plasma glucose	High fasting plasma glucose
8	Air pollution	Occupational risks
9	Low physical activity	Air pollution
10	Occupational risks	Low physical activity

Source: © IHME VIZ hub: DALY's caused by risk factors. Ranking of seniors 50-69 years for Germany. Download: 28.11.2017. Own processing

Chronic diseases have a major impact on Disability Adjusted Life Years (DALY's). In the ranking, neoplasms in 2015 among men aged 50-69 rose to first place, followed by cardiovascular diseases. Compared to 1990,

this represents a reversal in the ranking. Musculoskeletal disorders have been in third place for 25 years, and mental disorders have also been in 4th place for 25 years. Diabetes follows only at rank 6 (Table 2).

**Table 2.** Ranking of the most common diseases affecting the DALY's, men 50-69 years, Germany, 1990 and 2015

Ranking	1990	2015
1	Cardiovascular diseases	Neoplasms
2	Neoplasms	Cardiovascular diseases
3	Musculoskeletal disorders	Musculoskeletal disorders
4	Mental & substance use	Mental and substance use
5	Diabetes/urol/blood/endo	Other non-communicable diseases
6	Other non-communicable diseases	Diabetes/urol/blood/endo
7	Chronic respiratory diseases	Cirrhosis
8	Cirrhosis	Chronic respiratory diseases
9	Unintentional injuries	Unintentional injuries
10	Neurological disorders	Neurological disorders

Source: © IHME VIZ hub: Burden of chronic diseases of seniors 50-69 years in Germany [5]. Download: 15.11.2017. Own processing

We see an increase in liver cirrhosis, which reached rank 7. Unintentional injuries remain in 9th place and neurological disorders continue to rank 10th. Risk factors influencing DALY in the 70+ age group

are different from those in the younger age group. High blood pressure comes first, followed by eating and smoking behaviour, high blood sugar (diabetes), a high body mass index and hypercholesterolemia (Table 3).

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A low glomerular filtration rate, a sign of renal insufficiency, ranks seventh in both men and women in 2015. A low glomerular filtration rate was not among the most common risk factors in the 50-69 year old men.

**Table 3.** Ranking of the most common risk factors, men 70+ years with influence on the DALY's, Germany, 1990 and 2015

Ranking	1990	2015
1	High systolic blood pressure	High systolic blood pressure
2	Dietary risks	Dietary risks
3	Tobacco	Tobacco
4	High total cholesterol	High fasting plasma glucose
5	High fasting plasma glucose	High body mass index
6	High body mass index	High total cholesterol
7	Air pollution	Low glomerular filtration rate
8	Low glomerular filtration rate	Diet high in sodium
9	Low physical activity	Ambient particular matter pollution
10	Alcohol and drug use	Digestive diseases

Source: © IHME VIZ hub: DALY's caused by risk factors. Ranking of male seniors 70+ years in Germany [5]. Download: 28.11.2017. Own processing

In males 70+ years, the morbidity ranking shows a different picture compared to 50-69 year olds. Communicable diseases, non-communicable diseases and accidents are scaled up and rankings are allocated. Cardiovascular disease and neoplasia maintained positions 1 and 2 within the 25 years, while diabetes ranked from place 5 to place 3, and other chronic diseases increased to rank four, while chronic respiratory disease decreased from rank three (1990) to rank seven (2015) (Table 4). Suicides and fatal traffic accidents occupy places 13 and 14 [5].

**Table 4.** Ranking of the most common diseases (measured in DALY's), men 70+ years, Germany, 1990 and 2015

Ranking	1990	2015
1	Cardiovascular diseases	Cardiovascular diseases
2	Neoplasms	Neoplasms
3	Chronic respiratory diseases	Diabetes/urol/blood/endo
4	Neurological disorders	Other non-communicable diseases
5	Diabetes/urol/blood/endo	Neurological disorders
6	Other non-communicable diseases	Musculoskeletal disorders
7	Musculoskeletal disorders	Chronic respiratory diseases
8	Diarrhea/LRI/other infections	Diarrhea/LRI/other infections
9	Unintentional injuries	Unintentional injuries
10	Digestive diseases	Digestive diseases

Source: © IHME VIZ hub: Burden of chronic diseases of seniors 70+ years in Germany [5]. Download: 15.11.2017. Own processing

### European comparison in the risk behaviour of German men 65+

A rough comparison of the health situation of the 28 EU member states shows the position of Germany's male seniors (65+). The standardized questionnaire of the **European Health Interview Survey 2014/2015** was integrated in conjunction with the GEDA survey (Health in Germany Current) [13]. Despite of methodological differences between EU countries, comparability, e.g. in health behaviour exists. The following indicators of risk factors were measured: obesity prevalence (BMI => 30), daily consumption of fruit (several times a day, up to 5 times a day), daily consumption of vegetables (several times a day), physical activity (150 min / week moderately strenuous endurance sports), smoking behaviour (daily smoking) and binge drinking (consumption of 60g of pure alcohol or more to a drinking occasion).

The information on the risk factors is available in the analysis of the RKI [13] for several age groups and by sex. The highest age group is 65+. The following statements can be made regarding the position of Germany within the EU:

#### Obesity

In obesity, Germany is at 20% for men and women 65+, slightly above the EU-28 average.

#### Daily fruit consumption

Daily consumption of fruit five times a day for 65+ senior citizens in Germany are 61% (men) and 72% (women), while the EU-28 average is 65% for men and 71% for women.

#### Daily vegetable consumption

Daily vegetable consumption in German men 65+ is well below the EU-28 average (37% against 53%). Women 65+ are also with 49% below the EU-28 level with 60%. This puts Germany in the lower third of the EU-28 countries.

#### Physical activity

Physical activity of men 65+ is significantly higher in Germany (49%) than the EU-28 average (27%). For women, the proportion of sportspeople is 37%, i.e. higher than the EU average of 18%.

#### Current smoking

Proportion of 65 + year old men who smoke is below

10% in Germany, in the EU average over 10%. The proportion of smokers in 65+ women is lower than that of men at 6-7% both in Germany and in the EU average.

#### Monthly binge drinking

Binge drinking is much more pronounced among German men 65+ (34%) than in the EU-28 average (18%). Even in women 65+, binge drinking is significantly higher at 21% than the EU average at 7% [13]. The decline in intoxication with increasing age in Germany is low compared to the EU-28 average.

The explanation stated that less restrictive measures to limit alcohol consumption are being implemented in Germany than in other EU countries.

The situation for diabetes is inopportune for Germany. The high prevalence of diabetes for the elderly 65+ is striking for Germany, with 17.4% in 2011. Only Greece and Slovakia have a diabetes prevalence of over 20%.

Complications that also severely affect subjective health include kidney failure, blindness and angiopathy up to amputations but there are not data on EU-level.

Outpatient medical contacts, beds per 100,000 inhabitants and in-patient treatment are shown by Germany in the upper third of EU countries. In hip replacement surgery, Germany ranks first among EU countries. In 2016, a total of 233,424 first implantations and 35 464 changes of hip joint prostheses were performed (Table 5, Pict. 1). Most hip replacements are implanted at the age of 70-84 years.

**Table 5.** First implantations of hip joint prostheses by age and sex, Germany, 2016

Age group	Female	Male
65-69	16.525	11.088
70-74	21.321	12.151
75-79	30.03	12.773
80-84	22.074	16.04
85-89	13.815	9.939
90-94	6.709	1.978
95+	1.642	431
65+	112.116	64.400

Source: © Federal Statistical Office 2017. Operations and Procedures of full-time patients in hospitals, Germany [14], 2016. Own processing

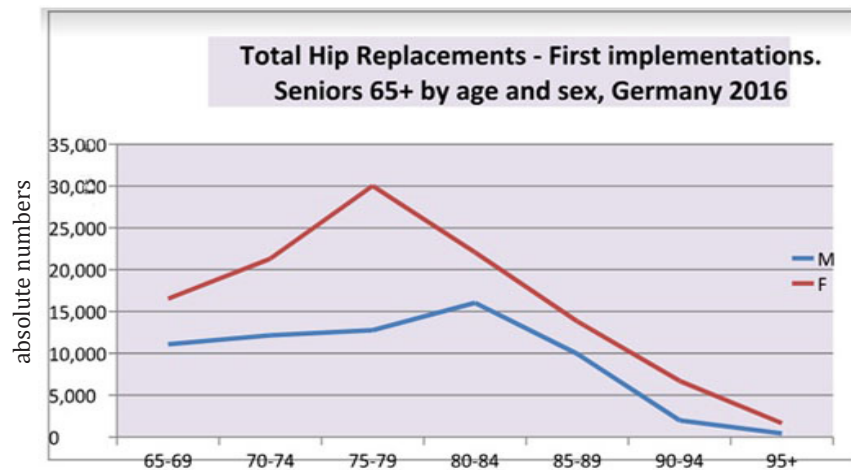


Figure 1. Hip joint implantations, seniors 65+ by age and sex, Germany, 2016

Source: © Federal Office of Statistics: www.destatis.de: Operations and Procedures of full-time patients in hospitals, Germany, 2016 [14]. Own processing

The total number of 176,516 hip implantation operations performed at age 65+ represents 75.62% of total hip replacements [14].

The gap between life expectancy and healthy life expectancy is a criterion for effective health promotion and high health performance (Federal German Health Report [13]). In the EU, the data up to 2010 developed unevenly as follows (see Table 6):

**Life expectancy and healthy life years in EU-countries**

Table 6. Healthy life years and life expectancy at the age of 65 in European countries by sex in 2010

Country	female		male	
	healthy life years	life expectancy	healthy life years	life expectancy
Germany	7,1	20,9	6,9	17,8
Ireland	11,2	21,1	11,1	18,1
Bulgaria	9,9	17,0	8,8	13,6
Sweden (max)	15,5	21,2	14,1	18,3
Denmark	12,8	19,7	11,8	17,0
France	9,8	23,4	9,0	18,9
Greece	8,1	20,4	8,8	18,5
Latvia	5,6	18,2	4,9	13,3
EU 27	8,8	21,0	8,7	17,4

Source: © Robert Koch-Institute: Statista 2018 [13]. Download 29.01.2018

This statistic (see Table 6) shows the remaining healthy life years and life expectancy on average at the age of 65 in European countries by sex. Thereafter, e.g. in Bulgaria the 65 year old women have on average 9.9 healthy life years and a further life expectancy of 17.0 years. Most healthy life years were recorded for Sweden with 15.5 years for women and 14.1 years for

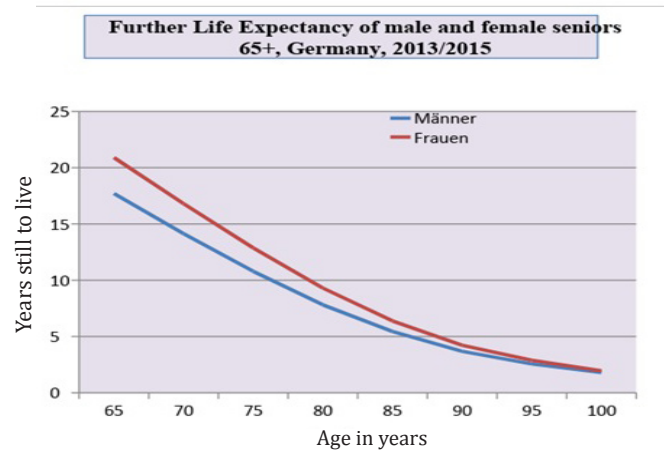
men. The recorded healthy life years for 65+ year old women in Germany are 7.1 years, and for 65 year old men 6.9 years, which is a lower place and is even below the EU average. In 2012, the life expectancy of women in Germany was 83.3 years, the life expectancy of men was 78.6 years. Within the EU, Italy, Spain and France have higher life expectancy than Germany [13].

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Current data from the Federal Statistical Office on published life tables 2013/2015 and nowadays 2014/2016 [11] show the difference in the further life expectancy between men 65+ and women 65+.

Men 65+ have a further life expectancy of 17.71 years,

women of 20.90 years (difference 3.19 years). 85-year-old men have a further life expectancy of 5.44 years, women 85+ have an average of 6.38 years of life. 100-year-old men still have 1.80 years of life expectancy and women still 1.95 years of life expectancy (see Pict. 2).



**Figure 2.** Further life expectancy of males and females 65+, Germany, 2013/2015

Source: © Federal Statistical Office (2016). Mortality Tables 2013/2015 [11]. Own processing

### DISCUSSION

Prognostic and model calculations [10] show a further increase in the life expectancy of men to 86.7 years by 2060 and of women to 90.4 years. By 2060, the number of 80+-year-olds will rise from the current figure of 4.4 million to 8 million, with a decline in the working-age population of up to 20% compared with the situation in 2013 [3; 10]. Years ago, the European Union already stated that an extension of life expectancy should be accompanied by an increase in healthy life expectancy, i. e. without the burden of chronic illnesses and disabilities. But can this trend really be seen from the available data on the health situation of seniors? The health situation of male seniors 65+ was attempted to present and analyze and evaluate of male seniors with available national and international data compared to the EU countries. It shows that the international comparisons are well suited to identify deviations of indicators in Germany from the EU average and also to individual EU countries that still need to act, especially in the case of population 65+. The reference to increased efforts to improve the health situation and quality of life of male seniors is particularly important because this population group will almost double in the next 30-40 years. If it is not possible to increase the healthy life expectancy in

Germany compared to the further life expectancy of the 65 year-olds, we will have to bear immense costs for health and care.

Using the example of the initial implantations of hip joints in which Germany holds the top position within the EU, it is possible to ask the question of oversupply, but also the opposite question: if citizens with hip joint arthrosis are operated on time in Germany, the quality of life of the affected person increases. The same applies to knee joint operations performed in good time, but also to cataract operations, the provision of hearing aids or good dental prostheses and dentures, which can be used to improve the quality of life and subjective health.

There are alarming figures for pensioners' medical care:

43% of in-patients in Germany are 65 years and older. Up to the age of 75, the majority of pensioners are still in good health, and after that the demand for care and nursing care is skyrocketing.

While 5% of the 70-74-year-olds (in 2013) were in need of nursing care, the actual need of nursing care increased in the 90+-year-olds up to 64% (men 52%, women 68%).



45% of male seniors in the 90+ age group are accommodated in nursing homes. Because 33% of the 65+ seniors live alone, the high proportion of people in need of nursing care is explained by the high proportion of people in need of care in nursing homes (EU average 32%).

50% of the severely handicapped are 65+ years old, there is registered an increase of severely disabled seniors in Germany. Men are more common severely disabled than women [2; 3].

The analyses of the Institute for Health Metrics and Evaluation (IHME) also allow an international perspective. In the country profile, IHME compares real health data from Germany with statistical estimations and receives statements on “expected values” against real “observed values”. For example, the observed life expectancy for Germany is lower than the statistically expected life expectancy. That points to potentials that have to be determined. Important health problems that cause health impairments are listed below for Germany: Diseases of the sensory organs, Alzheimer’s disease, diabetes and chronic obstructive pulmonary disease (COPD).

The IHME estimates that in Germany, several risk factors have increased which have a negative impact on health, such as:

### **for 50-69-year-old men**

High body mass index,  
Low consumption of fruit and vegetables,  
Excessive proportion of smokers,  
Excessive alcohol consumption;

### **For the men’s 70+ are added**

High blood pressure and  
Hypercholesterolemia.

The method used in the IHME to make risk factors, DALY’s and mortality data transparent by means of a ranking is suitable for making the health behaviour and health situation of the population transparent with epidemiological methods.

Questions that other countries try to answer with this method could be for Germany: What is the burden of increasing obesity or diabetes on the health situation and the health system? Is obesity our most important

health problem in Germany? In the United States, obesity was ranked as the most important health problem after a global burden of disease analysis. The analysis of DALY’s for men 50-69 and 70+ shows a change in ranking since 1990, with diabetes advancing to third place in men’s 70+. Injuries ranked ninth in both age groups, renal insufficiency ranked seventh in the 70+ age group. How do we evaluate these rankings?

The European Union is trying to use the European Health Interview Survey (EHIS) to make a rough comparison of health-promoting behaviours. Of the measured indicators BMI, fruit and vegetable consumption, physical activity, smoking and binge drinking, based on men 65+, only physical activity and smoking were beneficial for men in Germany [13]. For the other indicators, Germany is worse than the EU average, based on men 65+. Does that perhaps argue that preventive programs for seniors do not arrive?

The increasing drug prescriptions for men [15] indicates an increasing medicalization in men 60+. Does this meet a pent-up demand in therapy?

Men over 70+ are prescribed more than 90% of medicines when they see a doctor [12]. “Insufficient care in older men” would be a question, and “are we going to ‘over-supply’ and accept the increase in side-effects” would be the opposite question? Moeller-Leimkuehler A M, Seikowski K and other authors have already emphasized in the Second Men’s Health Report of the Men’s Health Foundation [16] that advocacy groups for older men are particularly important for health promotion. Lack of social support in existing chronic diseases can lead to overstraining of one’s own resources in older men [16: Moeller-Leimkuehler, p. 93]. The associated reduced quality of life leads to negative emotions and depression. Above all, diabetes-related burdens such as amputations, blindness, dialysis, and cardiovascular complications can cause seniors to fear losing control of their illness. Men like to rely on family support. When there is no family left, the situation becomes more complicated, especially for diabetics who develop up to 20% depression, which further worsens the prognosis and increases mortality. Comorbid depression is referred to as socio-demographic and diabetes-related factors [16; Moeller-Leimkuehler, p. 93].

In February 2018 a National Action Plan “Health Competence” was handed over by a research group to the acting Minister of Health of the Federal Republic of Germany [17]. The discussion shows that it is above all citizens with chronic diseases who have a high demand for health information in order to cope with their everyday life. What is the health competence of our senior citizens 65+ like?

Do we have a special group of the population whose quality of life also depends on whether they receive sufficient health information to ensure good subjective health into old age? There are these and many other problems concerning the health of seniors, which we not only need to analyse better, but to which we should find answers and concepts in order to keep subjective health at a high level into old age.

If we want to reach the level of Sweden, we would have to double the current healthy life expectancy of the elderly from 6.9 years to 14.1 years. This would be a strategic goal within the framework of the UN Sustainable Development Goals (SDG) (Sustainable Health Strategy) [18] for Germany [19] until 2030-2050.

### CONCLUSION

1. It is not sufficient to use the 60+ age group without further subdivisions in official statistics and health surveys. This will require consideration in all official statistics according to 5-year age groups up to 100+. In the health surveys of the Robert Koch-Institute, the men aged 65+ is certified that 56% have a very good and good state of health. According to the present analysis of official data [1; 2], this applies at most to the age group of 65-74-year-old men.

2. In a European comparison, the healthy life expectancy of 65-year-old men in Germany with 6.9 years is considerably lower than 14.1 years in Sweden (Table 6). The further life expectancy of men aged 65 is 17.8 years, i.e. so that only 39% of the remaining lifetime in Germany can be assessed as healthy years of life, while in Sweden it is 77% of the remaining years of life. Comparable relations can be calculated for women. This can be used to derive quantifiable health targets for Germany.

3. With the method inventory of IHME the influence of risk factors and diseases on quality of life and length of life can be calculated. The ranking shows the health, economic and financial significance of behaviour

patterns of the population and diseases in the life course. This is a good basis for concept development and action plans as well as nationwide targets within the framework of the Sustainable Development Goals (SDG) [18] and the existing nine National Health Goals [19].

4. An improvement of the health situation of seniors 65+ in the last years cannot be derived from the available statistics. In an international comparison, indicators such as “healthy life expectancy of seniors” and “subjective health” do not keep pace with leading countries such as Sweden, Denmark and Ireland.

5. Prevention programmes for health promotion, prevention of chronic diseases, accidents and suicide for seniors should be reviewed and evaluated. With an increasing number of seniors in Germany, the health situation and quality of life must be secured even better in order to limit an expenditure explosion.

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