Original Article

District-Level Life Expectancy in Germany

Roland Rau, Carl P. Schmertmann

Summary

Background: Identifying regions with low life expectancy is important to policy makers, in particular for allocating resources in the health system. Life expectancy estimates for small regions are, however, often unreliable and lead to statistical uncertainties when the underlying populations are relatively small.

Methods: We combine the most recent German data available (2015–2017) with a Bayesian model that includes several methodological advances. This allows us to estimate male and female life expectancy with good precision for all 402 German districts and to quantify the uncertainty of those estimates.

Results: Across districts, life expectancy varies between 75.8 and 81.2 years for men and from 81.8 to 85.7 years for women. The spatial pattern is similar for women and men. Rural districts in eastern Germany and some districts of the Ruhr region have relatively low life expectancy. Districts with relatively high life expectancies cluster in Baden-Wuerttemberg and southern Bavaria. Exploratory analysis shows that average income, population density, and number of physicians per 100 000 inhabitants are not strongly correlated with life expectancy at district level. In contrast, indicators that point to particularly disadvantaged segments of the population (unemployment rate, welfare benefits) are better predictors of life expectancy.

Conclusions: We do not find a consistent urban–rural gap in life expectancy. Our results suggest that policies that improve living standards for poorer segment of the population are the most likely to reduce the existing differences in life expectancy.

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Life expectancy in Germany is about 83.3 years for women and 78.5 years for men, according to the most recent data from the Federal Statistical Office (1). Internationally, Germany ranks 30th, trailing the leading countries for life expectancy by about 4 years for women and 3 years for men (2).

After only modest improvements since the 1970s, the former German Democratic Republic (referred to from here on as eastern Germany or the east) experienced a sudden increase in life expectancy after the reunification of Germany (3, 4). In contrast, life expectancy in the former Federal Republic of Germany (from here on, western Germany or the west) has increased steadily, at a rate comparable with other western industrialized countries. The current life expectancy for women no longer shows a difference between eastern Germany and western Germany, while there remains a gap of slightly over 1 year for men.

Comparisons of such large areas are certainly informative. Appropriate planning of health services, however, requires analysis at a finer geographic scale. Small-area estimates are therefore crucial in identifying marginalized regions. This is particularly important with regard to Art. 72 [2] of Germany's constitution, which empowers the federal government to enact legislation to provide equivalent living conditions.

To improve the identification of such regions, we estimated—based on age-specific mortality rates—life expectancy at the district level for women and men in Germany.

Our article has two substantive goals. First, we wanted to provide reliable estimates for small areas by using methods that do not suffer from instability and high uncertainty when the underlying populations are small. Standard estimators are vulnerable to random statistical fluctuations when there are only a few deaths from which to estimate mortality in small populations. In addition, our statistical approach also produces estimates of the underlying uncertainty. Such estimates of uncertainty are valuable for assessing whether differences in life expectancy between two districts are real or merely the random outcome of small numbers of deaths in districts of modest size. To our knowledge, no such interval estimations of life expectancy at the district level in Germany have yet been published.

Second, we wanted to examine whether there are specific patterns of correlation between social and economic indicators at the district level and local life

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Life expectancy at birth for men (blue) and women (red)

Estimated life expectancy in the 402 districts of Germany (including 80% uncertainty intervals between the 10% and 90% percentiles of probable values). The ten largest cities in Germany and the districts with the highest and lowest life expectancy for women and men were labeled.

expectancy. It is well known that poor, disadvantaged, and less (formally) educated people have lower life expectancy than those with higher income, better economic prospects, or a university degree (5–7). This is likely due not only to income and resources per se, but also to the higher prevalence of unhealthy lifestyles such as poor diet, smoking, and excessive drinking or to occupation-specific hazards among people with lower income or lower level of education (8, 9). By producing district-level estimates for life expectancy in Germany and investigating their correlations with social and policy variables, we hope to provide useful data and a solid foundation for future, more detailed, analyses.

Methods

Data

For each combination of district, sex, and age group (0, 1–4, 5–9, 10–14, ..., 80–84, 85+) we had access to the resident population on 31 December in 2014, 2015, 2016, and 2017 and to the numbers of deaths in the

calendar years 2015, 2016, and 2017. These data—the most recent available for estimation of mortality—were made available by the federal and state statistical offices via www.regionalstatistik.de (10, 11). We calculated the person-years lived by age group and sex in each calendar year as the mean of two consecutive end-of-year populations (e.g., the number of person-years lived in 2015 by women aged 50–54 years is the average for the women of this age group alive on 31 December 2014 and on 31 December 2015). In order to reduce random fluctuations due to small populations, we pooled the data on deaths and the person-years lived from the three available years (2015, 2016, 2017).

With the exception of the merger of the districts Göttingen and Osterode am Harz in 2016, the district boundaries did not change in the period 2015–2017. Consequently, our estimates for Göttingen and Osterode am Harz pertain to 2015 only.

Population sizes in German districts span two orders of magnitude. On 31 December 2017 the smallest district was Zweibrücken, with about 33 900

FIGURE 2

Estimates of life expectancy for men in all 402 districts of Germany expressed as whole numbers, i.e., 75 stands for 75.00–75.99 years, 76 for 76.00–76.99 years, etc. For the estimated ranking of the districts, see eFigure 1.

FIGURE 3

Estimates of life expectancy for women in all 402 districts of Germany expressed as whole numbers, i.e., 81 stands for 81.00–81.99 years, 82 for 82.00–82.99 years, etc. For the estimated ranking of the districts, see eFigure 2.

inhabitants, while Berlin, with about 3.6 million inhabitants, was the largest. Median district population size is about 150 000, and 50% of districts have between 100 000 and 240 000 inhabitants.

Annual death counts span slightly less than two orders of magnitude. In 2017, for example, there were 449 deaths in Zweibrücken and 34 339 deaths in Berlin. Slightly more than half of all districts had between 1200 and 2700 deaths in 2017.

Relational Bayesian model

We use a new relational model to estimate mortality rates by age and sex in each district. Relational models, such as the Brass logit model (12), have been widely employed for populations with sparse data, and were also partly used for estimation of life tables in Germany's component states after the register-based census in 2011 (13). The relational TOPALS model that we used was proposed by de Beer (14), and has good statistical properties even in very small populations (15, 16).

Our approach estimates age-specific mortality rates for all districts and both sexes with a Bayesian model that links parameters across districts. The model produces probabilistic

mortality rates at the district level, from which we can calculate a probability distribution for life expectancy e_0 at the district level.

Based on the given death counts and person-years lived, this distribution assigns higher probability to e_0 values that are more likely according to the model. Its median serves as the point estimate of life expectancy at the district level. We represent the uncertainty of our estimates by means of the interval between the 10th and 90th percentiles, which spans 80% of possible values for local e_0 . Mathematical and statistical details can be found online at <http://german-district-mortality.schmert.net>.

Results

Figure 1 displays estimates of life expectancy and of 80% probability intervals for each district and both sexes. We highlight the 10 largest cities and the districts with the highest and lowest life expectancies for women and men. Based on the estimated mortality rates for the years 2015–2017, men in Bremerhaven had the shortest life expectancy, while men living in the district surrounding Munich (*Landkreis*) could expect to live around 5 years longer. We found the lowest life expectancy for women in the Salzland district of Saxony–Anhalt, the highest in the Starnberg

FIGURE 4

Expected change in life expectancy (years) when indicator increases by 1 standard deviation

Standardized regression coefficients for social and economic indicators (see Table). For each of the four bars per indicator (men–west, men–east, women–west, women–east) the respective standard deviation was used.

GDP, Gross domestic product; GSC II, German Social Code II-based welfare benefit (“Hartz IV”)

district, southwest of Munich. The *eTable* provides a list of all districts, arranged by federal state, with point estimates and 80% interval estimates. The light blue and light red bars in Figure 1 indicate these 80% probability intervals. Because of the larger populations these bars are narrower for the largest cities than for less densely populated districts. The width of the interval estimates varies from 0.14 years for Berlin to 0.55 years for Ansbach and Osterode am Harz; the median is 0.36 years.

Figures 2 and 3 give a good impression of the distribution of life expectancy across districts in Germany. *eFigures 1* and 2 show the same maps for men and women with the rankings of the individual districts. District ranks should be interpreted cautiously due to overlapping interval estimates, but they indicate the approximate position among the 402 rural districts. An alphabetical list of districts by federal state is given in the *eTable*. Paler shades, denoting districts with lower life expectancy, are found more frequently in the east than in the west, especially for males. However, also in western Germany there are districts with comparably low life expectancy, especially districts in the Ruhr region, such as Dortmund or Gelsenkirchen.

It is well known that economic development, local conditions, and the availability of medical services can play important roles in life expectancy (17, 18). We now go on to explore what correlations exist between district-level life expectancy and social and economic indicators from the INKAR database (INKAR, *Indikatoren und Karten zur Raum- und Stadtentwicklung* [Indicators and Maps for Spatial and Urban Planning]) (19).

For this purpose we used the following district-level indicators: population density (persons per km²), primary-care physicians per 100 000 inhabitants, gross domestic product (GDP) per capita, unemployment rate, child poverty (persons eligible under 15 years per 100 inhabitants under 15 years), housing subsidies (households that receive housing benefit per 1000 households), German Social Code II-based (“Hartz IV”) welfare benefits (persons eligible below age 65 years in %), and public assistance for the elderly (proportion of inhabitants ≥ 65 years in %) (“*Grundsicherung im Alter*”).

Figure 4 shows the strength of the relationships between life expectancies at the district level and each of the selected indicators. The bars in the figure represent standardized bivariate regression

TABLE

List of indicators used, their definitions, means and standard deviations (SD)

Indicator	Definition	East		West	
		Mean	SD	Mean	SD
Population density	Inhabitants per km ²	287.63	414.00	577.78	715.34
Physicians/person	Primary-care physicians per 100 000 inhabitants	62.86	22.64	60.15	26.28
GDP per capita	Gross domestic product in €1000 per capita	27.05	5.11	37.62	16.80
Unemployment, women	Unemployment rate among women in civilian occupations, in %	7.66	2.03	5.00	2.33
Unemployment, men	Unemployment rate among men in civilian occupations, in %	8.52	2.16	5.40	2.47
Child poverty	Non-working eligible persons < 15 years per 100 inhabitants < 15 years	16.26	5.63	12.37	7.27
Housing subsidy	Households that receive housing subsidies per 1000 households	20.49	5.05	11.84	4.48
GSC II ("Hartz IV")	Persons (fit for work or not) eligible for German Social Code II-based welfare benefits as proportion of inhabitants < 65 years in %	11.38	3.47	7.40	4.35
Elder support	Recipients of old-age basic income support per 1000 inhabitants ≥ 65 years	9.37	5.66	24.44	14.14

Source: Indicators for the year 2016 from www.inkar.de (19).
Based thereon, authors' estimates of means and standard deviations across districts

coefficients: the estimated changes in life expectancy with an increase of one standard deviation in the given indicator. For example, the standardized coefficient for the unemployment rate among men in the west is -0.6 . The mean unemployment rate for men in the west was 5.40% , with a standard deviation of 2.47% (Table). Thus a 2.47% difference in unemployment rates between two western districts corresponds to a life expectancy 0.6 years lower than in the district with the higher life expectancy.

Several patterns emerge clearly from Figure 4. The selected indicators are more strongly correlated with life expectancy for men (left panel) than for women (right panel). Here we examine only aggregated cross-sectional data, but individual-level longitudinal studies of mortality often show that social, demographic, and economic conditions affect men more strongly than women (20).

The correlations between population density, physician density, and life expectancy are relatively low. It is interesting, however, that these correlations point in different directions in the east and the west: in eastern districts life expectancy rises slightly with increasing population density and physician density, while in western districts it declines slightly. There-

fore only in eastern Germany does living in an urban area or a more densely populated region confer an advantage with regard to life expectancy.

The data in Figure 4 also demonstrate that economic indicators are much stronger predictors of life expectancy than population density or the number of primary-care physicians per 100 000 residents. This contradicts speculation in the popular press (21) that differences in the proximity to medical care could explain regional differences in health and mortality.

The positive relationship between GDP and life expectancy across countries has been well known since the 1970s (17). The same pattern is visible in our analysis of districts: higher GDP per capita coincides with higher life expectancy.

Correlations between life expectancy and population density, physician density, and GDP are relatively low, however, compared with economic indicators that focus on the most disadvantaged residents of a district. As seen from the bars in the lower section of Figure 4, indicators such as unemployment rate, housing subsidies, and other measure of public assistance have notably higher correlations (all negative) with district-level life expectancy. It is also interesting to note that local unemployment and

Key Messages

- We provide point and interval estimates for the life expectancy of men and women in all districts of Germany.
- Life expectancy is generally highest in the southwest and in southern Bavaria; the lowest life expectancy is found for rural regions in the former GDR and in the Ruhr region.
- The spatial patterns for women and men are very similar.
- District-level socioeconomic indicators that highlight the situation of poorer segments of the population explain differences in life expectancy patterns better than gross domestic product (GDP) per capita, population density, or the density of physicians.

public subsidies are more strongly related to lower life expectancies in western Germany.

In our opinion the simple correlations illustrated in *Figure 4* clearly show it is not the average economic conditions in a region that influence life expectancy, but rather the circumstances of persons at the lower end of the socioeconomic spectrum.

Discussion

We estimate that life expectancy varies across German districts by more than 5 years for men (5.3 years), and by almost 4 years for women (3.9 years). To put this into an international context, the lowest life expectancy for men (75.8 years) corresponds roughly to that in Oman (ranked 53rd of 201 countries in UN estimates [2]), while the highest male life expectancy (81.2) is approximately equal to that in Australia (ranked 6th). For women, the district with the lowest life expectancy is comparable with the life expectancy of Czech women (81.8, ranked 46th). The highest female life expectancy in a German district is comparable with the life expectancy of women in South Korea (85.7, ranked 5th).

It is important to mention a few methodological limitations: Our estimates are based on the current population and death counts in each district, and could consequently be affected by selective migration. For instance, migration of particularly healthy people may reduce life expectancy in their home district and increase life expectancy in their new district. Neither our data nor our methods can control for this. In addition, models like ours that pool information across small units in order to lower variability tend to pull statistical outliers with small populations towards regional and national means. This is a classic bias–variance trade-off, and in some cases it may cause too much smoothing for a “real” outlier with a small population. Without a longer time series or additional information to identify such outliers, this is an unavoidable risk.

Although cross-sectional, aggregate data do not permit causal inferences, we explored bivariate corre-

lations between district-level life expectancy and macrofactors often discussed in the media, such as population density or physician density. Our results indicate that these factors are notably less important than economic indicators that focus on poorer population segments, such as the unemployment rate or welfare payments.

Life expectancy summarizes the entire age profile of mortality in a single number. Thus, further analyses focusing specifically on infant and childhood mortality or mortality in higher age groups might yield different results. By providing all data, code, and results at <http://german-district-mortality.schmert.net/> we encourage and enable other researchers to thoroughly understand our model, to reproduce our findings, to update them with new data, and to use them for independent analyses. Important examples of wider-reaching research initiatives would include more detailed examination of mortality by age and the integration of lifestyle factors such as smoking prevalence, alcohol consumption, or physical activity (22).

Conflict of interest statement

The authors declare that no conflict of interest exists.

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eTable and eFigures:
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CLINICAL SNAPSHOT

Inhalation and Ingestion of Disinfectant as a Mimic of COVID-19 Infection

The chest CT shown is that of a man presenting with altered consciousness, agitation, dyspnea, and fever who rapidly developed global respiratory insufficiency and needed to be intubated and ventilated. The initial clinical suspicion was of a SARS-CoV-2 infection, but imaging revealed an acute lung injury with diffuse perihilar ground-glass infiltrates of the apical lung segments with some consolidated areas, as opposed to the disseminated, mostly peripheral, subpleural, and basal ground-glass infiltrates that are typical of COVID-19 (Figure). The patient went on to develop acute respiratory distress syndrome and tested negative for SARS-CoV-2 by PCR. It was retrospectively determined that the patient, during a psychotic episode involving fear of death from SARS-CoV-2, had inhaled an aerosol spray containing chlorine and drunk a liquid disinfectant in order to cleanse his body. The final diagnosis was thus of a primary inhalational toxic lung injury. After extubation, he had no residual symptoms other than a mild tremor of central origin, attributable to a hypoxic injury of the basal ganglia that was revealed by neuroimaging. This case illustrates the differential-diagnostic utility of early computed tomography of the chest in patients with clinically suspected COVID-19 infection.

Initial axial chest CT revealing diffuse perihilar ground-glass infiltrates of the apical lung segments with areas of consolidation, indicating acute lung injury (ALI), unlike the disseminated, mainly peripheral, subpleural, and basal ground-glass infiltrates that are characteristic of COVID-19.

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Supplementary material to:

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eTABLE

Estimated life expectancy at birth for men and women in the 402 districts of Germany for the years 2015–2017 in alphabetical order by state. We also list the rank (1 = highest, 402 = lowest), the median of the a posteriori distribution, and the limits of the 80% prognosis intervals, i.e., 10th and 90th percentiles.

Bold blue type indicates counties in the top 10% (rank ≤ 40);

bold red type indicates counties in the bottom 10% (rank ≥ 363).

District	Women				Men			
	Rank	Percentiles			Rank	Percentiles		
		10%	50%	90%		10%	50%	90%
			(Median)				(Median)	
Baden-Württemberg								
Alb-Donau-Kreis	47	84.43	84.59	84.77	32	79.89	80.06	80.23
Baden-Baden	28	84.52	84.73	84.94	106	78.98	79.23	79.46
Biberach	50	84.40	84.58	84.76	35	79.85	80.02	80.20
Böblingen	13	84.87	85.02	85.17	8	80.40	80.55	80.70
Bodenseekreis	14	84.81	84.99	85.18	10	80.31	80.49	80.67
Breisgau-Hochschwarzwald	5	85.15	85.33	85.50	2	80.72	80.89	81.05
Calw	71	84.24	84.42	84.61	60	79.57	79.75	79.94
Emmendingen	30	84.55	84.72	84.90	23	79.96	80.14	80.33
Enzkreis	36	84.50	84.69	84.86	21	79.97	80.15	80.32
Esslingen	11	84.90	85.03	85.17	9	80.38	80.51	80.64
Freiburg im Breisgau	9	84.88	85.06	85.25	70	79.47	79.66	79.85
Freudenstadt	127	83.80	83.98	84.17	97	79.15	79.35	79.55
Göppingen	38	84.50	84.66	84.83	33	79.90	80.06	80.22
Heidelberg	18	84.74	84.92	85.11	84	79.34	79.55	79.75
Heidenheim	25	84.59	84.78	84.98	22	79.95	80.15	80.36
Heilbronn, Landkreis	94	84.13	84.27	84.42	68	79.53	79.69	79.83
Heilbronn, Stadt	53	84.37	84.55	84.74	135	78.73	78.94	79.16
Hohenlohekreis	63	84.26	84.46	84.67	52	79.62	79.83	80.04
Karlsruhe, Landkreis	31	84.56	84.70	84.85	36	79.88	80.02	80.16
Karlsruhe, Stadt	51	84.41	84.57	84.74	133	78.80	78.96	79.13
Konstanz	27	84.58	84.74	84.91	31	79.89	80.06	80.23
Lörrach	74	84.23	84.40	84.57	67	79.52	79.69	79.87
Ludwigsburg	21	84.71	84.84	84.98	15	80.13	80.25	80.39
Main-Tauber-Kreis	54	84.36	84.55	84.73	41	79.75	79.96	80.15
Mannheim	151	83.69	83.85	84.00	317	77.72	77.89	78.05
Neckar-Odenwald-Kreis	130	83.77	83.96	84.15	107	79.02	79.22	79.41
Ortenaukreis	49	84.44	84.58	84.73	39	79.83	79.97	80.11
Ostalbkreis	55	84.38	84.54	84.70	48	79.71	79.86	80.02

Pforzheim	98	84.03	84.21	84.40	202	78.38	78.59	78.80
Rastatt	66	84.29	84.45	84.62	56	79.63	79.79	79.96
Ravensburg	39	84.49	84.65	84.82	27	79.95	80.11	80.27
Rems-Murr-Kreis	24	84.68	84.81	84.96	18	80.07	80.20	80.33
Reutlingen	32	84.55	84.70	84.86	24	79.97	80.13	80.29
Rhein-Neckar-Kreis	86	84.19	84.31	84.45	66	79.58	79.70	79.83
Rottweil	73	84.21	84.40	84.60	59	79.55	79.75	79.96
Schwäbisch Hall	69	84.25	84.43	84.61	62	79.55	79.73	79.92
Schwarzwald-Baar-Kreis	79	84.20	84.37	84.54	64	79.54	79.71	79.88
Sigmaringen	42	84.44	84.63	84.81	38	79.78	79.99	80.19
Stuttgart	4	85.27	85.40	85.55	44	79.78	79.92	80.07
Tübingen	12	84.83	85.02	85.21	7	80.39	80.58	80.77
Tuttlingen	46	84.40	84.60	84.80	49	79.65	79.85	80.07
Ulm	17	84.72	84.93	85.13	87	79.27	79.49	79.73
Waldshut	83	84.17	84.35	84.52	63	79.55	79.73	79.91
Zollernalbkreis	45	84.43	84.61	84.78	46	79.74	79.92	80.09
Bavaria								
Aichach-Friedberg	44	84.42	84.62	84.81	30	79.86	80.06	80.27
Altötting	87	84.12	84.31	84.50	76	79.41	79.62	79.82
Amberg	261	83.13	83.36	83.59	198	78.34	78.60	78.84
Amberg-Weizsach	250	83.21	83.40	83.60	185	78.49	78.70	78.90
Ansbach, Landkreis	191	83.51	83.68	83.85	142	78.74	78.92	79.10
Ansbach, Stadt	182	83.48	83.73	83.99	148	78.62	78.89	79.17
Aschaffenburg, Landkreis	72	84.24	84.41	84.58	43	79.74	79.92	80.11
Aschaffenburg, Stadt	158	83.60	83.81	84.02	113	78.93	79.16	79.39
Augsburg, Landkreis	82	84.21	84.36	84.53	54	79.67	79.82	79.99
Augsburg, Stadt	120	83.86	84.02	84.19	123	78.90	79.07	79.24
Bad Kissingen	129	83.78	83.97	84.15	98	79.15	79.34	79.55
Bad Tölz-Wolfratshausen	37	84.49	84.67	84.86	25	79.92	80.12	80.31
Bamberg, Landkreis	332	82.85	83.03	83.21	257	78.08	78.27	78.47
Bamberg, Stadt	322	82.89	83.10	83.31	264	78.02	78.25	78.48
Bayreuth, Landkreis	284	83.08	83.27	83.46	217	78.26	78.47	78.67
Bayreuth, Stadt	270	83.11	83.33	83.55	222	78.22	78.45	78.68
Berchtesgadener Land	43	84.43	84.63	84.83	37	79.78	80.00	80.21
Cham	294	83.05	83.23	83.41	208	78.35	78.55	78.73
Coburg, Landkreis	318	82.93	83.12	83.31	245	78.12	78.33	78.54
Coburg, Stadt	313	82.89	83.13	83.37	261	78.01	78.27	78.52
Dachau	35	84.51	84.69	84.87	19	80.00	80.19	80.39
Deggendorf	330	82.86	83.05	83.24	243	78.13	78.33	78.54
Dillingen a.d. Donau	97	84.01	84.22	84.43	82	79.36	79.57	79.78
Dingolfing-Landau	196	83.45	83.65	83.85	127	78.81	79.02	79.23
Donau-Ries	78	84.18	84.38	84.58	58	79.56	79.77	79.98
Ebersberg	15	84.78	84.97	85.16	11	80.29	80.49	80.69
Eichstätt	29	84.53	84.72	84.92	17	80.03	80.24	80.44
Erding	40	84.44	84.64	84.84	28	79.88	80.09	80.30
Erlangen	140	83.68	83.89	84.10	129	78.78	79.01	79.23
Erlangen-Höchststadt	118	83.83	84.02	84.21	93	79.24	79.43	79.62

Forchheim	197	83.46	83.64	83.83	144	78.72	78.92	79.12
Freising	57	84.34	84.53	84.72	40	79.78	79.97	80.16
Freyung-Grafenau	268	83.14	83.34	83.53	187	78.46	78.68	78.89
Fürstenfeldbruck	10	84.88	85.06	85.23	6	80.41	80.58	80.76
Fürth, Landkreis	103	83.92	84.12	84.31	91	79.26	79.46	79.66
Fürth, Stadt	257	83.17	83.38	83.58	219	78.25	78.46	78.66
Garmisch-Partenkirchen	33	84.50	84.69	84.90	34	79.84	80.04	80.27
Günzburg	105	83.92	84.10	84.29	86	79.31	79.50	79.69
Haßberge	152	83.64	83.84	84.03	108	79.01	79.22	79.43
Hof, Landkreis	335	82.84	83.01	83.20	277	77.96	78.15	78.35
Hof, Stadt	344	82.72	82.95	83.17	297	77.80	78.05	78.28
Ingolstadt	60	84.30	84.49	84.69	50	79.62	79.84	80.05
Kaufbeuren	84	84.11	84.34	84.57	71	79.40	79.66	79.91
Kelheim	253	83.20	83.39	83.59	175	78.57	78.77	78.99
Kempten	77	84.17	84.38	84.61	69	79.46	79.67	79.91
Kitzingen	141	83.69	83.89	84.10	105	79.03	79.24	79.45
Kronach	317	82.92	83.12	83.32	255	78.05	78.27	78.49
Kulmbach	298	83.01	83.21	83.42	228	78.18	78.41	78.63
Landsberg am Lech	23	84.63	84.83	85.03	13	80.14	80.33	80.53
Landshut, Landkreis	161	83.62	83.80	83.99	103	79.06	79.25	79.44
Landshut, Stadt	236	83.24	83.46	83.67	172	78.55	78.78	79.01
Lichtenfels	333	82.82	83.02	83.23	271	77.98	78.20	78.43
Lindau (Bodensee)	93	84.08	84.27	84.48	79	79.35	79.58	79.80
Main-Spessart	108	83.89	84.08	84.28	85	79.32	79.52	79.73
Memmingen, Stadt	88	84.07	84.31	84.56	74	79.38	79.63	79.89
Miesbach	16	84.75	84.95	85.15	12	80.22	80.44	80.65
Miltenberg	119	83.83	84.02	84.21	90	79.28	79.47	79.67
Mühldorf a. Inn	202	83.43	83.61	83.81	155	78.67	78.88	79.08
München, Landkreis	3	85.33	85.49	85.65	1	80.99	81.15	81.30
München, Stadt	2	85.41	85.53	85.65	3	80.72	80.83	80.92
Neu-Ulm	52	84.37	84.57	84.76	45	79.74	79.92	80.13
Neuburg-Schrobenhausen	65	84.25	84.46	84.67	47	79.69	79.91	80.12
Neumarkt i.d. Opf.	217	83.35	83.54	83.73	143	78.73	78.92	79.12
Neustadt a.d. Aisch-Bad Windsheim	186	83.51	83.71	83.92	140	78.71	78.93	79.14
Neustadt a.d. Waldnaab	315	82.93	83.13	83.32	230	78.19	78.40	78.60
Nürnberg, Stadt	254	83.26	83.39	83.52	262	78.14	78.26	78.38
Nürnberger Land	155	83.66	83.83	84.01	122	78.89	79.07	79.25
Oberallgäu	26	84.58	84.76	84.94	16	80.06	80.24	80.42
Ostallgäu	41	84.43	84.64	84.84	26	79.91	80.11	80.31
Passau, Landkreis	199	83.46	83.62	83.78	124	78.88	79.05	79.22
Passau, Stadt	210	83.35	83.58	83.79	149	78.64	78.89	79.12
Pfaffenhofen a.d. Ilm	61	84.27	84.49	84.69	42	79.71	79.93	80.15
Regen	338	82.78	83.00	83.21	263	78.04	78.26	78.48
Regensburg, Landkreis	171	83.60	83.78	83.93	104	79.08	79.25	79.42
Regensburg, Stadt	189	83.49	83.68	83.87	137	78.72	78.93	79.12
Rhön-Grabfeld	188	83.50	83.70	83.90	120	78.86	79.07	79.29
Rosenheim, Landkreis	48	84.42	84.59	84.76	29	79.91	80.07	80.23

Rosenheim, Stadt	59	84.28	84.50	84.72	53	79.60	79.83	80.07
Roth	157	83.64	83.82	84.02	117	78.92	79.11	79.31
Rottal-Inn	241	83.28	83.44	83.62	151	78.69	78.88	79.07
Schwabach	147	83.63	83.86	84.10	147	78.65	78.90	79.17
Schwandorf	163	83.63	83.80	83.97	259	78.07	78.27	78.46
Schweinfurt, Landkreis	68	84.24	84.43	84.61	119	78.89	79.09	79.31
Schweinfurt, Stadt	112	83.82	84.05	84.29	227	78.15	78.41	78.66
Starnberg	1	85.50	85.69	85.89	4	80.45	80.66	80.87
Straubing	203	83.40	83.60	83.82	301	77.77	78.03	78.27
Straubing-Bogen	148	83.67	83.86	84.04	207	78.34	78.56	78.75
Tirschenreuth	282	83.08	83.28	83.47	347	77.40	77.63	77.86
Traunstein	20	84.71	84.89	85.06	81	79.38	79.57	79.76
Unterallgäu	34	84.52	84.69	84.87	99	79.14	79.34	79.54
Weiden i.d. Opf.	184	83.50	83.72	83.94	292	77.80	78.07	78.33
Weilheim-Schongau	8	84.93	85.11	85.29	55	79.61	79.81	80.00
Weißenburg-Gunzenhausen	131	83.77	83.95	84.14	256	78.05	78.27	78.48
Wunsiedel i. Fichtelgebirge	336	82.82	83.00	83.19	386	76.94	77.16	77.37
Würzburg, Landkreis	19	84.71	84.90	85.07	61	79.54	79.73	79.92
Würzburg, Stadt	91	84.11	84.30	84.49	179	78.53	78.75	78.96
Berlin								
Berlin	178	83.67	83.74	83.82	203	78.51	78.58	78.64
Brandenburg								
Barnim	277	83.12	83.29	83.46	266	78.06	78.23	78.40
Brandenburg an der Havel	275	83.10	83.30	83.50	281	77.91	78.13	78.36
Cottbus	304	82.98	83.18	83.37	307	77.78	77.99	78.20
Dahme-Spreewald	215	83.39	83.55	83.72	209	78.36	78.53	78.70
Elbe-Elster	349	82.75	82.92	83.10	333	77.56	77.75	77.94
Frankfurt (Oder)	343	82.76	82.96	83.16	324	77.61	77.84	78.06
Havelland	325	82.92	83.07	83.24	295	77.88	78.05	78.22
Märkisch-Oderland	255	83.23	83.39	83.55	236	78.18	78.34	78.51
Oberhavel	251	83.24	83.40	83.55	237	78.18	78.34	78.51
Oberspreewald-Lausitz	329	82.90	83.06	83.23	325	77.65	77.83	78.01
Oder-Spree	230	83.33	83.49	83.65	235	78.20	78.36	78.53
Ostprignitz-Ruppin	324	82.91	83.09	83.27	308	77.79	77.98	78.18
Potsdam	169	83.61	83.78	83.96	165	78.64	78.82	79.01
Potsdam-Mittelmark	198	83.48	83.64	83.81	168	78.64	78.80	78.97
Prignitz	358	82.68	82.87	83.06	334	77.54	77.75	77.95
Spree-Neiße	341	82.82	82.99	83.16	320	77.68	77.86	78.04
Teltow-Fläming	309	82.98	83.15	83.32	293	77.89	78.07	78.25
Uckermark	354	82.72	82.89	83.05	340	77.50	77.69	77.87
Bremen								
Bremen	174	83.63	83.77	83.91	342	77.53	77.68	77.82
Bremerhaven	391	82.24	82.46	82.68	402	75.57	75.82	76.06
Hamburg								
Hamburg	125	83.91	84.00	84.10	156	78.78	78.88	78.97

Hesse								
Bergstraße	145	83.74	83.88	84.04	111	79.04	79.21	79.36
Darmstadt	90	84.11	84.30	84.50	83	79.36	79.56	79.76
Darmstadt-Dieburg	99	84.03	84.18	84.33	77	79.45	79.60	79.74
Frankfurt am Main	109	83.94	84.07	84.21	112	79.08	79.20	79.33
Fulda	75	84.21	84.39	84.57	65	79.52	79.71	79.88
Gießen	162	83.64	83.80	83.95	132	78.81	78.97	79.13
Groß-Gerau	107	83.94	84.09	84.24	96	79.21	79.36	79.52
Hersfeld-Rotenburg	173	83.59	83.77	83.96	134	78.76	78.96	79.15
Hochtaunuskreis	6	85.05	85.22	85.39	5	80.48	80.65	80.80
Kassel, Stadt	208	83.41	83.59	83.77	216	78.31	78.49	78.67
Kassel, Landkreis	142	83.74	83.89	84.05	116	78.99	79.15	79.31
Lahn-Dill-Kreis	281	83.13	83.28	83.42	220	78.30	78.46	78.61
Limburg-Weilburg	243	83.26	83.43	83.62	205	78.38	78.57	78.75
Main-Kinzig-Kreis	110	83.94	84.07	84.21	92	79.32	79.45	79.59
Main-Taunus-Kreis	22	84.66	84.83	84.99	14	80.11	80.27	80.44
Marburg-Biedenkopf	220	83.37	83.54	83.70	183	78.56	78.73	78.89
Odenwaldkreis	134	83.72	83.92	84.12	109	79.00	79.21	79.42
Offenbach am Main, Stadt	143	83.69	83.89	84.08	126	78.83	79.04	79.25
Offenbach, Landkreis	56	84.38	84.53	84.68	51	79.69	79.84	79.99
Rheingau-Taunus-Kreis	81	84.20	84.36	84.54	57	79.61	79.78	79.95
Schwalm-Eder-Kreis	181	83.57	83.73	83.89	294	77.90	78.07	78.25
Vogelsbergkreis	111	83.87	84.06	84.24	223	78.23	78.44	78.64
Waldeck-Frankenberg	264	83.18	83.35	83.52	214	78.32	78.50	78.68
Werra-Meißner-Kreis	209	83.41	83.58	83.77	332	77.56	77.76	77.97
Wetteraukreis	92	84.12	84.27	84.42	178	78.60	78.75	78.91
Wiesbaden	58	84.37	84.52	84.69	164	78.66	78.83	79.00
Mecklenburg–West Pomerania								
Ludwigslust-Parchim	367	82.64	82.79	82.94	345	77.49	77.65	77.82
Mecklenburgische Seenplatte	374	82.56	82.70	82.84	364	77.29	77.44	77.60
Nordwestmecklenburg	331	82.86	83.03	83.20	316	77.70	77.89	78.07
Rostock, Landkreis	369	82.61	82.77	82.92	348	77.45	77.61	77.78
Rostock, Stadt	249	83.24	83.40	83.57	274	77.99	78.16	78.34
Schwerin	233	83.30	83.48	83.68	380	76.99	77.23	77.45
Vorpommern-Greifswald	357	82.73	82.88	83.02	399	76.45	76.62	76.77
Vorpommern-Rügen	312	83.00	83.14	83.28	392	76.77	76.93	77.10
Lower Saxony								
Ammerland	179	83.55	83.74	83.93	138	78.73	78.93	79.13
Aurich	389	82.33	82.50	82.66	362	77.28	77.46	77.63
Braunschweig	231	83.33	83.48	83.65	250	78.13	78.30	78.48
Celle	267	83.18	83.34	83.52	241	78.16	78.34	78.53
Cloppenburg	345	82.78	82.95	83.14	298	77.85	78.04	78.22
Cuxhaven	319	82.95	83.12	83.27	279	77.97	78.14	78.31
Delmenhorst	287	83.05	83.26	83.46	267	78.00	78.22	78.44
Diepholz	187	83.54	83.71	83.88	182	78.56	78.73	78.91
Emden	353	82.67	82.89	83.12	329	77.54	77.79	78.03
Emsland	288	83.10	83.26	83.40	229	78.25	78.40	78.55

Friesland	201	83.42	83.61	83.81	184	78.49	78.70	78.92
Gifhorn	218	83.37	83.54	83.73	190	78.47	78.65	78.85
Goslar	311	82.96	83.14	83.31	302	77.83	78.02	78.21
Göttingen	226	83.28	83.51	83.73	212	78.29	78.52	78.76
Grafschaft Bentheim	214	83.37	83.55	83.74	171	78.59	78.79	78.98
Hameln-Pyrmont	271	83.15	83.32	83.51	275	77.97	78.16	78.35
Hannover	149	83.75	83.86	83.96	181	78.63	78.74	78.84
Harburg	106	83.93	84.09	84.25	94	79.22	79.39	79.56
Heidekreis	274	83.11	83.30	83.48	247	78.12	78.32	78.52
Helmstedt	382	82.41	82.61	82.81	366	77.21	77.42	77.64
Hildesheim	320	82.97	83.12	83.26	309	77.83	77.98	78.14
Holzminden	292	83.02	83.24	83.44	283	77.90	78.12	78.35
Leer	364	82.66	82.82	82.99	318	77.72	77.88	78.07
Lüchow-Dannenberg	323	82.86	83.09	83.31	288	77.85	78.10	78.33
Lüneburg	269	83.17	83.34	83.51	218	78.28	78.47	78.65
Nienburg (Weser)	316	82.93	83.13	83.33	312	77.74	77.95	78.18
Northeim	305	82.99	83.18	83.35	280	77.94	78.14	78.33
Oldenburg (Old), Stadt	263	83.18	83.36	83.53	221	78.26	78.45	78.64
Oldenburg, Landkreis	235	83.29	83.47	83.66	189	78.47	78.66	78.86
Osnabrück, Landkreis	168	83.64	83.78	83.92	125	78.90	79.04	79.19
Osnabrück, Stadt	194	83.49	83.67	83.85	176	78.58	78.76	78.96
Osterholz	228	83.32	83.50	83.69	195	78.43	78.62	78.82
Osterode am Harz	352	82.65	82.89	83.14	330	77.51	77.79	78.05
Peine	326	82.88	83.07	83.26	303	77.82	78.02	78.21
Rotenburg (Wümme)	289	83.08	83.25	83.42	251	78.11	78.30	78.47
Salzgitter	363	82.62	82.83	83.03	344	77.45	77.67	77.88
Schaumburg	291	83.07	83.24	83.43	290	77.88	78.08	78.26
Stade	123	83.85	84.01	84.17	233	78.21	78.38	78.56
Uelzen	278	83.09	83.29	83.48	373	77.08	77.30	77.52
Vechta	128	83.79	83.97	84.16	215	78.28	78.49	78.69
Verden	167	83.61	83.78	83.96	289	77.89	78.09	78.29
Wesermarsch	237	83.26	83.45	83.66	358	77.31	77.54	77.76
Wilhelmshaven	276	83.09	83.29	83.49	384	76.96	77.19	77.40
Wittmund	234	83.26	83.47	83.69	351	77.36	77.61	77.85
Wolfenbüttel	204	83.43	83.60	83.78	343	77.48	77.68	77.87
Wolfsburg	156	83.63	83.82	84.02	321	77.64	77.86	78.08
North Rhine–Westphalia								
Aachen	138	83.78	83.91	84.03	246	78.20	78.32	78.45
Bielefeld	124	83.85	84.01	84.18	141	78.77	78.92	79.09
Bochum	351	82.75	82.89	83.04	346	77.49	77.64	77.78
Bonn	62	84.29	84.47	84.64	80	79.41	79.57	79.74
Borken	225	83.37	83.52	83.66	177	78.62	78.76	78.90
Bottrop	365	82.62	82.82	83.01	336	77.52	77.73	77.93
Coesfeld	116	83.88	84.04	84.21	100	79.15	79.32	79.50
Dortmund	385	82.44	82.57	82.69	375	77.15	77.27	77.40
Duisburg	388	82.38	82.51	82.63	389	76.92	77.05	77.18
Düren	334	82.86	83.01	83.17	285	77.96	78.12	78.27

Düsseldorf	185	83.58	83.71	83.84	194	78.49	78.62	78.74
Ennepe-Ruhr-Kreis	355	82.75	82.88	83.02	323	77.69	77.84	77.97
Essen	381	82.49	82.61	82.74	376	77.14	77.26	77.38
Euskirchen	297	83.05	83.22	83.39	254	78.10	78.27	78.45
Gelsenkirchen	400	82.03	82.18	82.34	396	76.63	76.78	76.94
Gütersloh	114	83.89	84.04	84.20	101	79.11	79.26	79.42
Hagen	386	82.37	82.54	82.72	372	77.12	77.31	77.48
Hamm	362	82.66	82.83	83.01	338	77.52	77.71	77.88
Heinsberg	306	83.02	83.17	83.32	238	78.19	78.34	78.50
Herford	159	83.66	83.81	83.98	152	78.72	78.88	79.04
Herne	396	82.12	82.31	82.49	393	76.73	76.92	77.11
Hochsauerlandkreis	328	82.92	83.07	83.22	286	77.95	78.11	78.27
Höxter	146	83.69	83.87	84.05	131	78.79	78.98	79.17
Kleve	302	83.03	83.18	83.34	278	77.99	78.15	78.30
Köln	164	83.67	83.79	83.90	162	78.73	78.84	78.95
Krefeld	310	82.98	83.14	83.32	313	77.77	77.93	78.10
Leverkusen	132	83.78	83.95	84.13	121	78.89	79.07	79.25
Lippe	136	83.77	83.92	84.06	146	78.76	78.91	79.05
Märkischer Kreis	346	82.81	82.94	83.07	322	77.72	77.85	77.98
Mettmann	139	83.78	83.91	84.04	128	78.88	79.01	79.13
Minden-Lübbecke	160	83.66	83.81	83.96	166	78.67	78.82	78.97
Mönchengladbach	368	82.63	82.78	82.93	354	77.41	77.57	77.74
Mülheim an der Ruhr	238	83.28	83.45	83.63	242	78.16	78.34	78.52
Münster	64	84.30	84.46	84.63	72	79.49	79.65	79.82
Oberbergischer Kreis	245	83.28	83.43	83.57	210	78.37	78.52	78.68
Oberhausen	387	82.36	82.52	82.68	377	77.09	77.25	77.42
Olpe	327	82.87	83.07	83.25	276	77.95	78.16	78.35
Paderborn	117	83.87	84.03	84.18	102	79.09	79.25	79.41
Recklinghausen	360	82.76	82.87	82.98	331	77.65	77.76	77.87
Remscheid	300	82.98	83.19	83.39	300	77.82	78.04	78.25
Rhein-Erft-Kreis	193	83.55	83.68	83.81	150	78.76	78.88	79.01
Rhein-Kreis Neuss	195	83.53	83.66	83.79	160	78.71	78.84	78.97
Rhein-Sieg-Kreis	85	84.20	84.32	84.44	75	79.50	79.62	79.74
Rheinisch-Bergischer Kreis	70	84.26	84.42	84.58	73	79.49	79.64	79.80
Siegen-Wittgenstein	219	83.40	83.54	83.69	341	77.52	77.68	77.84
Soest	246	83.28	83.42	83.56	355	77.42	77.57	77.72
Solingen	265	83.17	83.35	83.52	369	77.20	77.39	77.58
Steinfurt	104	83.98	84.11	84.24	213	78.37	78.51	78.64
Unna	242	83.30	83.44	83.57	360	77.34	77.48	77.62
Viersen	126	83.85	84.00	84.15	258	78.11	78.27	78.42
Warendorf	76	84.24	84.39	84.54	169	78.65	78.80	78.97
Wesel	135	83.80	83.92	84.04	284	77.99	78.12	78.26
Wuppertal	248	83.27	83.41	83.56	374	77.13	77.29	77.43
Rhineland-Palatinate								
Ahrweiler	180	83.55	83.73	83.91	136	78.74	78.93	79.12
Altenkirchen (Westerwald)	293	83.04	83.23	83.42	239	78.13	78.34	78.54
Alzey-Worms	222	83.34	83.52	83.72	159	78.65	78.85	79.04

Bad Dürkheim	229	83.32	83.50	83.68	174	78.59	78.78	78.97
Bad Kreuznach	224	83.35	83.52	83.69	191	78.45	78.63	78.80
Berncastel-Wittlich	121	83.80	84.02	84.21	110	78.99	79.21	79.42
Birkenfeld	361	82.66	82.86	83.06	319	77.64	77.86	78.08
Cochem-Zell	244	83.21	83.43	83.67	201	78.34	78.59	78.83
Donnersbergkreis	256	83.18	83.38	83.58	199	78.37	78.60	78.81
Eifelkreis Bitburg-Prüm	177	83.53	83.74	83.96	145	78.68	78.92	79.14
Frankenthal (Pfalz)	221	83.31	83.54	83.77	186	78.43	78.68	78.94
Germersheim	166	83.60	83.79	84.00	118	78.89	79.10	79.32
Kaiserslautern, Stadt	286	83.05	83.26	83.47	252	78.07	78.29	78.51
Kaiserslautern, Landkreis	205	83.41	83.60	83.78	167	78.62	78.81	79.02
Koblenz	170	83.58	83.78	83.97	139	78.71	78.93	79.12
Kusel	260	83.16	83.37	83.57	204	78.35	78.57	78.79
Landau in der Pfalz	211	83.33	83.56	83.79	180	78.49	78.74	79.01
Ludwigshafen am Rhein	252	83.22	83.40	83.58	231	78.20	78.40	78.59
Mainz	95	84.05	84.23	84.42	89	79.28	79.47	79.66
Mainz-Bingen	100	83.96	84.14	84.32	78	79.41	79.58	79.76
Mayen-Koblenz	206	83.43	83.60	83.76	173	78.60	78.78	78.94
Neustadt an der Weinstraße	133	83.72	83.95	84.16	114	78.92	79.16	79.39
Neuwied	216	83.37	83.55	83.71	188	78.49	78.67	78.85
Pirmasens	347	82.71	82.94	83.16	299	77.78	78.04	78.27
Rhein-Hunsrück-Kreis	223	83.33	83.52	83.73	192	78.42	78.62	78.84
Rhein-Lahn-Kreis	272	83.14	83.32	83.50	225	78.21	78.41	78.61
Rhein-Pfalz-Kreis	102	83.96	84.13	84.31	88	79.30	79.48	79.67
Speyer	176	83.54	83.76	83.98	296	77.80	78.05	78.31
Südliche Weinstraße	96	84.04	84.23	84.41	170	78.59	78.80	79.00
Südwestpfalz	101	83.94	84.13	84.32	197	78.40	78.61	78.81
Trier	165	83.58	83.79	83.99	315	77.66	77.89	78.13
Trier-Saarburg	80	84.19	84.37	84.55	157	78.66	78.85	79.04
Vulkaneifel	122	83.80	84.01	84.24	232	78.14	78.38	78.63
Westerwaldkreis	190	83.52	83.68	83.84	310	77.80	77.97	78.15
Worms	144	83.67	83.88	84.09	282	77.89	78.12	78.37
Zweibrücken	137	83.69	83.91	84.16	269	77.94	78.20	78.48
Saarland								
Merzig-Wadern	375	82.50	82.69	82.89	356	77.35	77.56	77.78
Neunkirchen	377	82.47	82.65	82.84	361	77.26	77.46	77.66
Saarbrücken	383	82.47	82.60	82.74	367	77.28	77.41	77.55
Saarlouis	340	82.83	82.99	83.15	311	77.79	77.96	78.13
Saarpfalz-Kreis	290	83.07	83.24	83.41	253	78.10	78.28	78.47
St. Wendel	308	82.96	83.16	83.35	268	77.99	78.21	78.41
Saxony								
Bautzen	153	83.70	83.84	83.99	158	78.70	78.85	79.00
Chemnitz	227	83.36	83.50	83.66	211	78.37	78.52	78.68
Dresden	7	84.98	85.11	85.25	20	80.04	80.17	80.31
Erzgebirgskreis	240	83.32	83.44	83.58	226	78.27	78.41	78.55
Görlitz	259	83.22	83.37	83.52	272	78.04	78.20	78.35
Leipzig, Landkreis	183	83.56	83.72	83.88	193	78.45	78.62	78.78

Leipzig, Stadt	192	83.55	83.68	83.82	244	78.19	78.33	78.47
Meißen	89	84.14	84.30	84.47	95	79.19	79.36	79.53
Mittelsachsen	262	83.22	83.36	83.49	224	78.28	78.42	78.56
Nordsachsen	273	83.14	83.30	83.47	265	78.08	78.24	78.43
Sächsische Schweiz-Osterzgebirge	150	83.70	83.85	84.01	154	78.72	78.88	79.04
Vogtlandkreis	232	83.33	83.48	83.62	359	77.33	77.50	77.65
Zwickau	239	83.33	83.45	83.58	353	77.44	77.58	77.72
Saxony-Anhalt								
Altmarkkreis Salzwedel	394	82.22	82.40	82.59	387	76.94	77.15	77.35
Anhalt-Bitterfeld	401	81.95	82.10	82.26	397	76.60	76.78	76.95
Börde	395	82.24	82.39	82.55	383	77.01	77.19	77.35
Burgenlandkreis	379	82.48	82.63	82.78	371	77.22	77.38	77.55
Dessau-Roßlau	376	82.50	82.68	82.85	363	77.24	77.45	77.64
Halle (Saale)	384	82.45	82.60	82.76	382	77.04	77.20	77.37
Harz	398	82.12	82.25	82.40	390	76.87	77.02	77.18
Jerichower Land	393	82.27	82.44	82.63	378	77.06	77.25	77.45
Magdeburg	370	82.61	82.77	82.93	365	77.26	77.42	77.60
Mansfeld-Südharz	397	82.09	82.26	82.42	391	76.84	77.02	77.19
Saalekreis	392	82.31	82.46	82.62	379	77.08	77.23	77.41
Salzlandkreis	402	81.62	81.77	81.92	400	76.22	76.38	76.54
Stendal	390	82.30	82.47	82.64	401	75.87	76.07	76.27
Wittenberg	356	82.72	82.88	83.04	398	76.44	76.62	76.81
Schleswig-Holstein								
Dithmarschen	307	82.98	83.16	83.35	291	77.88	78.08	78.26
Flensburg	350	82.72	82.92	83.12	337	77.51	77.72	77.94
Hzgt, Lauenburg	207	83.43	83.60	83.76	196	78.45	78.62	78.80
Kiel	296	83.05	83.22	83.38	306	77.83	77.99	78.17
Lübeck	321	82.94	83.10	83.27	327	77.62	77.80	77.97
Neumünster	337	82.79	83.00	83.22	328	77.56	77.79	78.02
Nordfriesland	212	83.39	83.56	83.73	206	78.38	78.57	78.73
Ostholstein	200	83.46	83.62	83.78	200	78.42	78.59	78.76
Pinneberg	172	83.63	83.77	83.92	163	78.69	78.83	78.98
Plön	115	83.86	84.04	84.22	115	78.97	79.15	79.34
Rendsburg-Eckernförde	175	83.60	83.76	83.91	153	78.73	78.88	79.04
Schleswig-Flensburg	266	83.19	83.34	83.49	248	78.14	78.31	78.47
Segeberg	113	83.90	84.04	84.19	260	78.11	78.27	78.44
Steinburg	213	83.39	83.56	83.73	357	77.36	77.56	77.75
Stormarn	67	84.29	84.44	84.61	161	78.66	78.84	79.01
Thuringia								
Altenburger Land	299	83.02	83.20	83.38	270	78.02	78.20	78.40
Eichsfeld	295	83.04	83.22	83.40	240	78.15	78.34	78.54
Eisenach	371	82.55	82.76	82.97	335	77.49	77.73	77.96
Erfurt	314	82.98	83.13	83.29	287	77.93	78.10	78.26
Gera	279	83.10	83.29	83.47	273	77.98	78.19	78.38
Gotha	373	82.54	82.71	82.88	339	77.51	77.69	77.87
Greiz	285	83.09	83.27	83.45	249	78.12	78.31	78.50
Hildburghausen	378	82.43	82.63	82.83	349	77.38	77.61	77.82

Ilm-Kreis	348	82.75	82.93	83.11	314	77.73	77.93	78.13
Jena	154	83.64	83.83	84.02	130	78.79	79.00	79.21
Kyffhäuserkreis	399	82.04	82.23	82.41	388	76.90	77.11	77.32
Nordhausen	366	82.60	82.79	82.98	326	77.60	77.81	78.02
Saale-Holzland-Kreis	283	83.09	83.28	83.47	234	78.16	78.37	78.57
Saale-Orla-Kreis	342	82.80	82.98	83.16	304	77.81	78.01	78.21
Saalfeld-Rudolstadt	339	82.83	82.99	83.15	305	77.82	78.00	78.19
Schmalkalden-Meiningen	380	82.46	82.62	82.78	350	77.43	77.61	77.79
Sömmerda	359	82.68	82.87	83.06	394	76.64	76.86	77.08
Sonneberg	301	83.00	83.19	83.38	385	76.94	77.16	77.40
Suhl	258	83.18	83.37	83.58	368	77.16	77.40	77.64
Unstrut-Hainich-Kreis	372	82.60	82.76	82.93	395	76.60	76.79	76.99
Wartburgkreis	280	83.11	83.28	83.46	370	77.19	77.38	77.57
Weimar	303	82.99	83.18	83.37	381	77.00	77.22	77.44
Weimarer Land	247	83.23	83.42	83.60	352	77.39	77.59	77.80

eFIGURE 1

Source: Authors' estimates. Map data: © GeoBasis-DE / BKG 2016. www.bkg-bund.de (23).

Estimates of life expectancy for men in all 402 districts of Germany expressed as whole numbers, i.e., 75 stands for 75.00–75.99 years, 76 for 76.00–76.99 years, etc. The numbering of the districts shows the estimated ranking (1 = highest, 402 = lowest).

eFIGURE 2

Source: Schätzungen der Autoren. Kartendaten: © GeoBasis-DE/BKG 2016, www.bkg.bund.de (23).

Estimates of life expectancy for women in all 402 districts of Germany expressed as whole numbers, i.e., 81 stands for 81.00–81.99 years, 82 for 82.00–82.99 years, etc. The numbering of the districts shows the estimated ranking (1 = highest, 402 = lowest).