Detailed prevalence data from the AOK Northeast Health Atlas

Teichert: „Government must take countermeasures

The interactive AOK Northeast Health Atlas, recently published on the AOK Northeast website, provides detailed insights into how widespread the ten most common chronic diseases are in Berlin, Brandenburg and Mecklenburg-Western Pomerania. And not just at the level of districts or boroughs, but for each of the total of 3,054 local districts in the three federal states.... Whether obesity, depression or back pain: the atlas uses animated maps to show where and how much these common diseases have increased since 2010. And it gives detailed forecasts for the year 2040.

>> That's how different the prevalence can be in one district - only until now neither the policy-makers at local or state or even federal level knew that. Until now: Because the very fine-grained resolution of the new AOK Northeast Health Atlas shows that sometimes there are only a few kilometres between areas with a low and high burden of disease, or in cities even only a few hundred metres:

- Example Berlin-Mitte: At Arkonaplatz, only one in thirteen AOK-insured people has obesity, but a few hundred metres away on Brunnenstraße, one in nine. In the neighbourhood around Immanuelkirchstraße in Prenzlauer Berg, on the other hand, only about 6% of those insured by the AOK are obese - a Berlin-wide low. The Oberspree district in Treptow-Köpenick is at the other end of the scale: Around 19% are severely overweight here. That is more than three times as many. In general, prevalences of more than 15% tend to be found in the east and south of Berlin.
- Example Rostock (MV): In the Hansaviertel district, 9.5% of those insured with the AOK are affected by obesity. In the neighbouring district of Reutershagen to the north, on the other hand, 12.2% of people have a diagnosis of obesity. Directly above this is the dark green district of Evershagen, where 16% of those insured with the AOK have an obesity diagnosis.
- Example district Potsdam-Mittelmark (BB) In the municipality of Nuthetal, 9.6% of the AOK-insured are affected by ob esity. In the neighbouring town of Michendorf to the south, on the other hand, 12.7% of people have a diagnosis of obesity. Directly below is the dark green coloured municipality of Seddiner See, where 14.5% of the AOK-insured have an obesity diagnosis.

Whether urban or rural, the trend in obesity goes in one direction: mostly upwards. However, in Brandenburg, for example, the small-scale map of the Health Atlas shows large regional differences. AOK-insured people who live in the suburbs of Berlin are on average less likely to be obese, while people in regions far from Berlin are on average more likely to be obese:



Daniela Teichert, Chairwoman of the Board of AOK Nordost.

- In Berlin, around 380,000 people will have a medical diagnosis of obesity in 2021. That is about one third more people than ten years earlier.
- In Mecklenburg-Western Pomerania (MV), every seventh person insured with the AOK has an obesity diagnosis. That is 53% more people than ten years ago. Here, too, with strong regional diversity: in the municipality of Göhren on the island of Rügen, only about 4% of the AOK-insured are obese - an all-time low in MV. The municipality of Dargun in the district of Mecklenburgische Seenplatte, on the other hand, is at the other end of the scale: Around 29% are severely overweight here. That is more than seven times as many.
- In Brandenburg (BB), every eighth person insured with the AOK (13%) has an obesity diagnosis. That is 41% more people than ten years ago, when it was still 9%. According to the AOK analysis, about 313,000 people in Brandenburg suffer from obesity. And these are only the cases diagnosed by doctors; the number of unreported cases is much higher.

In 2012, the Robert Koch Institute determined in a representative sample that 23% of Germans are obese. More recent representative figures from the RKI are not available, but the current AOK Nordost figures are approximately representative, because the health insurance fund is after all the largest

Background

For the AOK Northeast Health Atlas, the billing data for the years 2010 to 2021 of about 1.7 million AOK-insured persons in Berlin, Brandenburg and Mecklenburg-Western Pomerania were evaluated. The M2Q criterion was used for the diseases shown. According to this, an insured person is considered to be ill if at least two confirmed diagnoses from the outpatient sector or one confirmed diagnosis from the inpatient sector were available for the respective year. At the insured person level, the characteristics age, gender, unemployed or not unemployed and German or foreign citizenship were also considered. The insured persons were assigned to municipalities and districts on the basis of their residential address for the presentation of the prevalence of the disease. Postcodes were used specifically for the forecast and geomarkets for the calculation of risk factors.

The animated presentation of the prevalence of disease is based on the accounting data for the years 2010 to 2021. For the small-scale presentation of the so-called prevalence of disease, the insured persons were assigned to municipalities and districts on the basis of their residential address. In order to be able to make statements on the degree of social disadvantage and the density of specialists in the districts, a commercial data set, the so-called geomarkets of the company WIGeoGIS, was used. A geomarket consists of about 440 inhabitants and offers a large number of demographic and socio-economic indicators, which are much more differentiated than data from official statistics due to the aggregation. Social disadvantage was measured with the help of a deprivation index. The index consists of the domains unemployment, employment rate, proportion of inhabitants without educational qualifications, proportion of inhabitants with higher education and average purchasing power

health insurance company in the federal states Berlin, Brandenburg and MV.

The evaluation is based on the accounting data of the AOK Nordost for the year 2021. 1.705 million of the total of 1.834 million insured persons who were insured for at least one day in 2021 and who live in Berlin, Brandenburg and Mecklenburg-Western Pomerania were included in the evaluation.

From a planning perspective, the future strengthening of regional differences in the diseases examined requires a more locally focused approach. While Berlin and the Berlin suburbs in particular will record an increase in chronically ill patients, the number of chronically ill patients in some regions of Mecklenburg-Western Pomerania and Brandenburg will decrease significantly. The planning of GP and specialist care should therefore focus on regions that will experience an increase in chronically ill patients, while at the same time ensuring that regions with a decrease in chronically ill patients can reach GP and specialist care within reasonable driving time.

„It is worrying that the incidence of obesity has risen sharply in Berlin," explained Daniela Teichert, Chair of the Board of AOK Nordost. However, she said, the Health Atlas, in addition to showing the pure burden of disease, also impressively shows that obesity is a doctor's and the most important risk factor for most practice networks other chronic diseases. Teichert: „The federal government is called upon to take countermeasures and adopt binding reduction targets for the fat and sugar content of food. But also companies, day-care centres, schools and the municipalities in Brandenburg and Mecklenburg-Vorpommern as well as Berlin districts are called upon to do more to effectively prevent obesity. We are happy to support them in this."

Dr Boris Kauhl, who is responsible for regional analyses with geographic information systems (GIS) at AOK Nordost, was in charge of developing the AOK Nordost Health Atlas. For him, too, as a geodata analyst, the increase in obesity is an alarming finding, because obesity is one of the most important risk factors for serious chronic secondary diseases, especially for type II diabetes, hypertension and coronary heart disease (see short interview).

The Health Atlas specifically shows that AOK-insured persons with obesity have about twice the risk of developing back pain, depression, asthma and the lung disease COPD. According to the data analysis,

How health insurance data paired with geo-information can help establish better care

>> Dr. Kauhl, the AOK North-East Health Atlas, which you were in charge of developing, has revealed: In Berlin, in 2021, around 380,000 people will have received a medical diagnosis for severe overweight, i.e. obesity. That is about one third more people than ten years earlier. In Brandenburg and Mecklenburg-Western Pomerania, obesity diagnoses have increased similarly. How do you assess this?

This is an alarming finding because obesity is one of the most important risk factors for serious chronic secondary diseases, especially for type II diabetes, hypertension and coronary heart disease. But this also applies to diseases that one does not necessarily think of immediately. For example, various types of cancer, such as colon cancer, and also for depression. It also shows that obese people have a higher risk of poorer treatment outcomes for respiratory diseases such as COPD and asthma.

You were also able to gain these insights through your analyses for the Health Atlas. Were you yourself surprised to learn that obese AOK insurees suffer on average twice as often from back pain, asthma or depression as insurees of normal weight?

I knew from the scientific literature that there is a connection between obesity and many chronic diseases. The fact that we can now quantify exactly how much higher the risk is was also an exciting discovery for me. But the most surprising thing for me and also for many colleagues here at the AOK Nordost is the realisation of how pronounced the small-scale regional differences actually are. For example, that in Berlin-Mitte at Arkonaplatz only every thirteenth insured person has obesity - but a few hundred metres further on at Brunnenstraße every ninth insured person has obesity.



Is this small-scale resolution also the added value that the AOK Northeast Health Atlas has over the Health Atlas of Germany?

The Health Atlas of Germany, published by the Scientific Institute of the AOK (WIdO) in May, offers a super overview of the health situation of the regions in Germany. However, it is limited to the district level. However, our contacts as AOK Nordost in Berlin, Brandenburg and Mecklenburg-Western Pomerania are much more local. These are, for example, local doctor networks, medical care centres and associations of panel doctors. That's why we wanted to use our Health Atlas to find out exactly where our hotspots, i.e. the main areas of illness, are. In Berlin alone we have 3.8 million inhabitants and a very different social structure within the districts. In Brandenburg we have the „Speckgürtel" on the one hand - and regions far from Berlin on the other. And in Mecklenburg-Western Pomerania there is also a pronounced urban-rural divide. So it makes perfect sense to look very closely.

How does the very fine resolution of the Health Atlas concretely help to improve care for people?

In concrete terms, it helps to allocate new doctor's seats to those areas where medical care is most urgently needed. Demand planning for general practitioners and specialists is organised between the Association of Statutory Health Insurance Physicians and the representatives of the health insurance funds. A certain number of doctor's seats are advertised for each district. If we, the AOK Nordost, know with the help of the health atlas that the prevalence of type 2 diabetes, for example, is particularly high in some communities, then we can work in the admissions committee to ensure that the specialists settle precisely in the communities where they are needed. And not, for example, in Berlin's „Speckgürtel", where there is already a high density of specialists.

Why do the figures on obesity differ so much in some regions, even though the regions are not far apart? Take the Elbe Elster region, for example, with figures of 21% and 41%.

This can essentially be explained by the very small-scale differences in the deprivation index and the unemployment rate of our insured, which varies greatly from region to region. There are often only a few kilometres between geomarkets with a good social situation and geomarkets in a poor social situation.

Does the atlas also help to target obesity prevention projects such as GemüseAckerdemie, Henrietta and wildGreen more specifically in the future where obesity affects a particularly large number of people?

That's right. Until now, we knew that we didn't necessarily have to go to Berlin-Zehlendorf, but had to look after Neukölln and Kreuzberg. Now we know exactly: we have to take care of Oranienplatz in Kreuzberg and Glasower Straße in Neukölln - because that's where our hotspots are. So we can narrow down the problem much more precisely. And ultimately, this also helps to use the money available in a much more targeted and effective way. <<

The interview comes from the AOK Northeast Forum. Thank you for permission to reprint.

obese people are about 120% more likely to suffer from coronary heart disease, about 450% more likely to suffer from diabetes and about 620% more likely to suffer from high blood pressure. But obese AOK insurants also have a higher risk of colon cancer (36%) and malignant cancer neoplasms (46%).

Risk factors for obesity

However, the health atlas also shows that the inhabitants of socially disadvantaged districts and communities are particularly affected by obesity. For example, they have a 13% higher risk of obesity than the residents of Brandenburg's wealthiest districts and communities. And unemployed AOK-insured persons even have a 22% higher risk of obesity. Insured persons with foreign citizenship, on the other hand, have a 22.3% lower risk of obesity than insured persons with German citizenship.

Further risk factors - results of the regression model (see Tab. 1) for obesity - are:

- Women have a 28.5% higher risk of obesity than men .
- With each year of age, the risk of obesity increases by 2.5% .
- The distribution of GPs', specialists' and endocrinologists' practices has no significant influence on the probability of a diagnosis of ob esity.
- If the density of commuters at the place of residence of the insured person increases by 1%, the risk of obesity increases by 0.5% .
- The proportion of one-person households has no significant influence on the risk of ob esity.
- If the proportion of households with children increases by 1%, the risk of obesity increases by 0.2% .

Deprivation in itself has a significant impact on obesity risk. Compared to the 20% least deprived geomarkets, those in the 2nd quintile have a 3.1% higher risk, those in the 3rd quintile have a 7.4% higher risk, those in the 4th quintile have a 10.8% higher risk and those in the 20% most deprived geomarkets have a 12.9% higher risk of obesity.

Forecast of obesity until 2040

According to the findings of the atlas, the number of people with obesity will de-

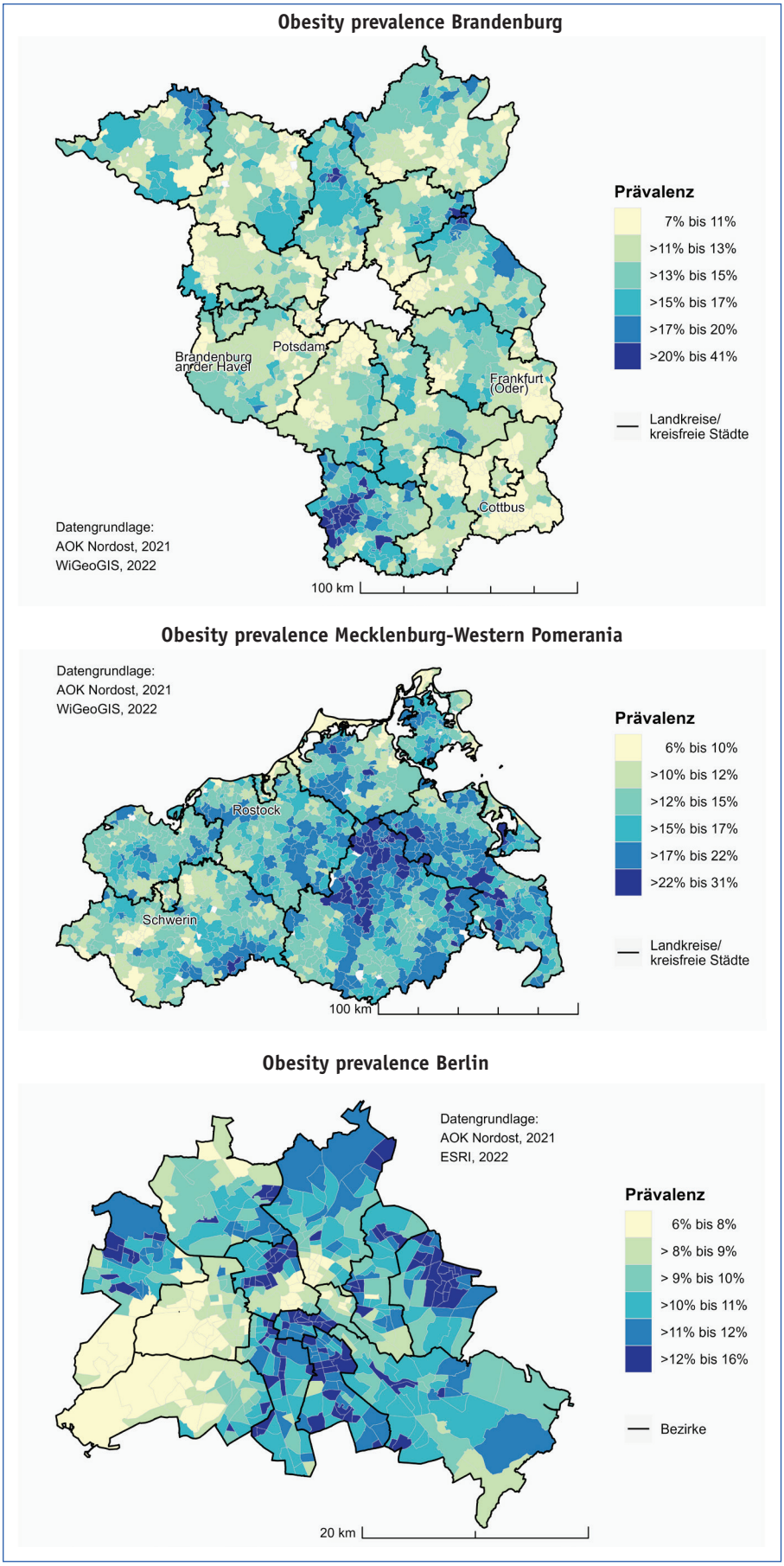


Fig. 1-3: Obesity prevalence in Brandenburg, Mecklenburg-Western Pomerania and Berlin, standardised for age and gender. Source: https://aok-nordost-forum.de/aok-nordost-gesundheitsatlasadipositas/.

Regressionskoeffizienten für Adipositas		
Variable	**Koeffizient**	**95 % KI**
Geschlecht: Weiblich (Ref.: Männlich)	1,285	1,273 – 1,297
Alter in Jahren	1,025	1,025 – 1,025
Ausländische Staatsbürgerschaft (Ref.: Deutsch)	0,777	0,765 – 0,790
Arbeitslos (Ref.: Alle anderen Versichertenarten)	1,220	1,202 – 1,237
Hausärzte pro 100.000 Einwohner:innen (EW)	1,000	1,000 – 1,001
Fachärztliche Internistinnen und Internisten pro 100.000 EW	0,990	0,974 – 1,006
Endokrinolog:innen pro 100.000 EW	1,037	0,995 – 1,079
Anteil Berufspendelnde am Wohnort (%)	1,005	1,004 – 1,006
Anteil Ein-Personen-Haushalte (%)	0,999	0,999 – 1,000
Anteil Haushalte mit Kindern (%)	1,002	1,001 – 1,003
2. Deprivationsquintil (Ref. 1. Deprivationsquintil)	1,031	1,008 – 1,055
3. Deprivationsquintil (Ref. 1. Deprivationsquintil)	1,074	1,048 – 1,099
4. Deprivationsquintil (Ref. 1. Deprivationsquintil)	1,108	1,082 – 1,135
5. Deprivationsquintil (Ref. 1. Deprivationsquintil)	1,129	1,097 – 1,160

Tab. 1: Regression coefficients for obesity. Legend: Ref. = reference category, CI = confidence interval. Source: https://aok-nordost-forum.de/aok-nordost-gesundheitsatlas-adipositas/.

velop very differently from region to region by 2040:

- Berlin will experience a particularly strong increase in the number of people with obesity. By 2040, a strong increase is to be expected in the entire city.
- In MV, the number will initially increase noticeably in some postcode areas, but will decrease again from 2030 onwards .
- In Brandenburg, the number of people with obesity will increase, especially in the Berlin region. In the remaining regions, there will be a significant decreas. <<

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Quelle: https://aok-nordost-forum.de/aok-nordost-gesundheitsatlas-adipositas/

Citation

Stegmaier, P.: „Teichert: „Government must take countermeasures“, in „Monitor Versorgungsfor-schung“ (05/23), S. 14–17. http://doi.org/10.24945/MVF.05.23.1866-0533.2536

Telemedicine in nursing homes

>> In order to strengthen device-supported telemedicine in nursing homes, the AOK Nordost has made it possible for interested doctors or care centres and nursing homes to bill for telemedical services since 1 August. The insurance company expects the digital remote treatment to relieve the burden on doctors and nursing staff in Brandenburg and Mecklenburg-Western Pomerania. According to the AOK, doctors' practices that want to participate in the contract only need a tablet or smartphone and the app of the chosen telemedicine provider, via which the doctors connect to the telemedicine in the nursing home. Doctors receive 30 euros for the first treatment per quarter with device-based telemedicine for each insured person enrolled. They bear the costs for the devices themselves. All GPs in the states of Mecklenburg-Western Pomerania and Brandenburg who cooperate with a nursing home according to Section 119b SGB V can participate. The health insurance fund tested the use of telemedicine for nine months in a pilot project. A telemedicine product from the start-up MedKitDoc was used. No provider is specified in the selective contract. <<

Fig. 4: Forecast of obesity prevalence: total population BE, BB, MV (2012-2030).. Source: https://aok-nordost-forum.de/aok-nordost-gesundheitsatlas-adipositas/.

Forecast of obesity prevalence: total population BE, BB, MV (2012-2040)

