Faktencheck Gesundheit

Bertelsmann Stiftung

SPOTLIGHT HEALTHCARE 03 | 2015
Data, analysis, perspectives

Density of physicians

New allocation scheme for physician practices fails to address needs

- Medical practices are not allocated according to needs. The new allocation scheme improves the situation only in the case of general practitioners
- In 75 percent of districts, the density of specialists does not correspond to regional needs
- The imbalance between urban and rural areas will be maintained
- The density ratio (physician-to-population ratio) is the decisive factor in the needs-based provision of health care
- The allocation of physicians must take factors such as unemployment, income, dependency on long term care and mortality into account
- Associations of physicians and of statutory health insurance funds are called upon to bring the provision of health care into line with needs. The necessary legal framework is already in place

Long waiting times for appointments, long distances to the nearest specialist – more and more patients are complaining about this state of affairs. But are these shortcomings due to a lack of physicians? Or are physicians in Germany unevenly distributed? “Healthcare Fact Check” investigated whether the changes made to the allocation scheme in 2013 have resulted in a needs-based allocation of general practitioners and specialists.

Compared to other OECD countries, the number of physicians in Germany is relatively high. At 3.8 practicing physicians per 1,000 inhabitants (taking general practitioners and specialists together), Germany is in the top third. However, the distribution of physician practices does not always correspond to regional needs. A shortage of physicians in rural areas and a large number of physicians in towns and cities – the new allocation scheme does nothing to change this. These are the findings of the study.

On behalf of the Bertelsmann Stiftung, the Berlin-based research institute IGES analyzed the current and planned allocation of general practitioners, ophthalmologists, gynecologists, pediatricians, ENT specialists, neurologists, orthopedists, psychotherapists and urologists at regional level. These were benchmarked against a needs index specially developed by the institute. This index enables regional variations in medical care to be determined.

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Allocation of medical specialists by region type

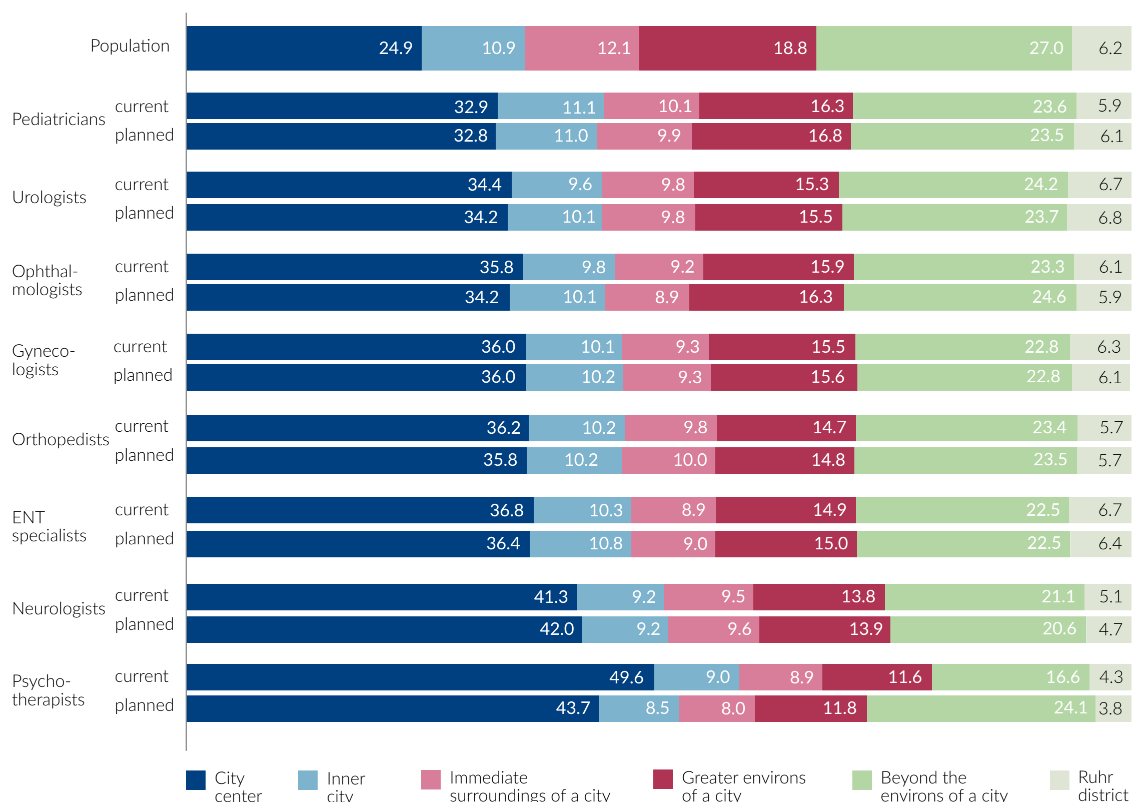

Fig. 1 | Figures in percent | Source: Healthcare Fact Check 2014/2015

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How does the allocation scheme work?

The healthcare reform law passed in 2012 was intended to "to ensure good and nationwide healthcare, also for the future" (Federal Ministry of Health). One of the instruments used to achieve this goal is the allocation scheme, a task undertaken by the joint self-government of the associations of statutory health insurance physicians and statutory health insurance funds. The allocation scheme guidelines divide the country into so-called planning areas – in the case of specialists this is at district level. For each group of physicians, the number of medical practices is determined which – with reference to the number of inhabitants – is deemed to be adequate to provide needs-based healthcare in the respective planning areas. These density ratios (physician-to-population ratio) form the basis for the allocation of physicians. In the case of medical specialists, however, they vary according to the type of region. Physicians in cities do not have to provide care for as many inhabitants as their colleagues in rural areas because it is assumed that some residents of rural areas will receive health care in the towns and cities. For each planning area a so-called degree of provision is determined on the basis of the density ratio. This degree of provision is expressed as a percentage which indicates whether there is a surplus or a shortfall of health care in any given planning district. Approval for new medical practices is granted only in regions in which there is no surplus of health care.

The flaw in the scheme: The benchmark used is based on the density of physicians as it was at the beginning of the 1990s when the allocation scheme was first introduced. The changes in the age structure and the increase in chronic diseases which have a major impact on medical needs since this time are not taken into account.

The results of the study show that the new allocation scheme does not fulfill the expectation that had been raised of achieving a fairer distribution of specialists between urban and rural areas (Fig. 1, Table 3). Although only 25 percent of the population of Germany live in cities, over 30 percent of medical practices in all areas of specialism included in the study are to be allocated there. In the case of neurologists and psychotherapists, this number is over 40 percent. This regional imbalance will persist under the revised allocation scheme of the joint self-government of the associations of statutory health insurance physicians and statutory health insurance funds following a reform in Public Health Care legislation ("Versorgungsstrukturgesetz" 2012). Consequently,

Density ratios for medical specialists (urban versus rural) as per allocation planning guidelines

Group of physicians	City*	Rural area*	Deviation
ENT specialists	1 : 17,675	1 : 31,768	+ 80 %
Gynecologists	1 : 3,733	1 : 6,042	+ 62 %
Neurologists	1 : 13,745	1 : 31,183	+ 127 %
Ophthalmologists	1 : 13,399	1 : 20,664	+ 54 %
Orthopedists	1 : 14,101	1 : 23,813	+ 69 %
Pediatricians	1 : 2,405	1 : 3,859	+ 60 %
Psychotherapists	1 : 3,079	1 : 5,953	+ 93 %
Urologists	1 : 28,476	1 : 47,189	+ 66 %

* Ratio physician: inhabitants, absolute

Table 1 | Source: own illustration | BertelsmannStiftung

"With the Structural Reform Act, we have set the course for ensuring that in the future, too, health care will be available nationwide close to where people live throughout the whole of Germany."

Daniel Bahr, Federal Minister of Health 2011–2013, on 16.12.2011

References

Further information can be found in the two Fact Check publications on the density of physicians. The data is based on the physician statistics of the German Medical Association, the allocation plans of the individual health insurers and a variety of data from the Federal Office of Statistics and the Federal Institute for Research on Building, Urban Affairs and Spatial Development (BBSR).

The studies can be downloaded from faktencheck-aerztedichte.de

3,079

inhabitants are to fall within the catchment area of a psychotherapist in a city

5,953

inhabitants are to fall in the catchment area of a psychotherapist in a rural district

24.3%

fewer pediatricians are to be allocated under the new scheme

"Allocation planning is a planning measure; in other words it is theoretical. It indicates potential medical practices. No more and no less."
Roland Stahl, Spokesman of the National Association of Statutory Health Insurance Physicians (Kassenärztliche Bundesvereingung; NASHIP) on Twitter

there will be no change to the structural disadvantages suffered by patients living in rural areas. The only noticeable improvement will be in the area of general practice (Fig. 3, Table 3).

Specialists in rural areas to treat more inhabitants than colleagues in cities

The allocation planning of medical specialists will continue to be subject to considerable variations in density ratios (physician-to-population ratio) depending on the type of region (city or rural): The arrangements set out by the Federal Joint Committee (Gemeinsamer Bundesausschuss, G-BA) require specialists in rural areas to treat between 50 and almost 130 percent more inhabitants than their colleagues in cities (Table 1). This imbalance is justified by the claim that physicians in towns and cities more frequently provide medical care for patients in the surrounding areas.

Needs play hardly any part in the allocation of physicians

The joint self-government of the associations of statutory health insurance physicians and state associations of statutory health insurance funds currently possesses no suitable methodical instruments for measuring the regional need for health care. However, the relevant scientific literature points to population-based indicators which allow conclusions to be drawn with regard to the need for health care and which are easy to ascertain: age and income structure, rate of unemployment, dependency on long-term care and mortality. The new allocation scheme so far takes only gender and the prevailing age structure into account, but no other socio-economic or morbidity factors.

In preparing the Healthcare Fact Check on the density of physicians, the latest data from the German Federal Office of Statistics were collated into a needs index which combined all the relevant indicators – with the exception of future demographic aging (Table 2).

Needs index would permit a more differentiated allocation

If these indicators were to be taken into account in allocation planning, a more differentiated picture of the regional need for health care could be drawn – and the effects of allocation planning

Indicators used in current allocation planning compared to the needs index

Indicators		Allocation planning	Needs index
Demographic	Current age structure	✔	✔
	Gender	✔	✔
	Aging trend	–	–
Socio-economic	Rate of unemployment	–	✔
	Income per household	–	✔
Morbidity	Number of persons dependent on care	–	✔
	Mortality rate	–	✔

✔ included – not included

Table 2 | Source: Healthcare Fact Check 2014 | BertelsmannStiftung

Density of pediatricians: Allocation planning compared to own calculations

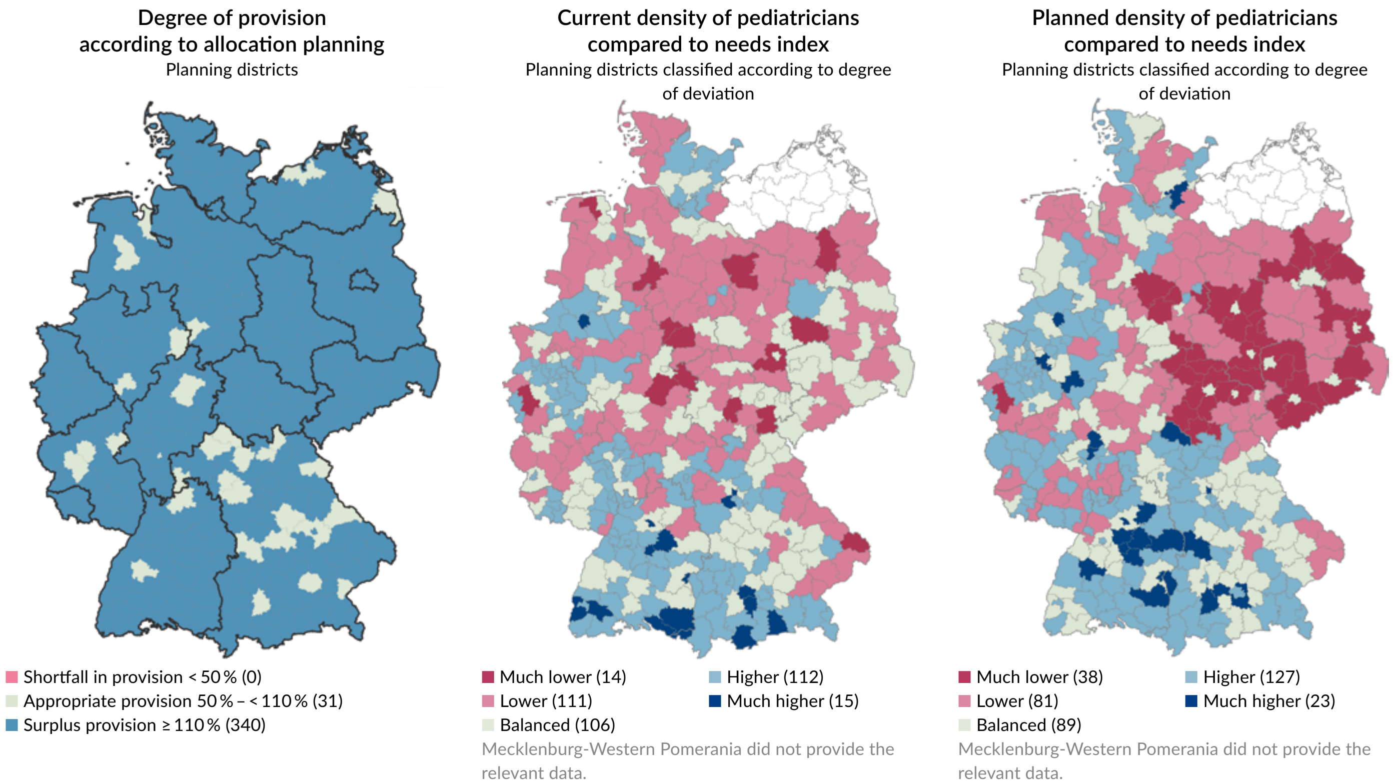

Fig. 2 | Source: National Association of Statutory Health Insurance Funds (GKV-Spitzenverband), Healthcare Fact Check 2014, data and calculation IGES Institut.

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could be monitored more accurately. In some cases, the weighting of the indicators would have to be adapted according to the group of physicians: For example, in the case of gynecologists and pediatricians, the corresponding percentage of women or children in the region is relevant; in the case of ophthalmologists, whose patients include an above-average number of senior citizens, the age weighting would need to be adjusted accordingly.

Pediatricians: East-west divide will become more pronounced under the new scheme

The new allocation scheme for pediatric practices only takes into account the population under the age of 18 years. However, the percentage of infants, who require a higher degree of medical attention, is not considered. As a result, the new allocation scheme will reduce the overall number of pediatric practices nationwide by 24.3 percent. In some regions, in which the density of physicians currently still corresponds to the need for health care, the number of pediatric practices will fall. In eastern Germany in particular, shortfalls in the provision of health care can be expected.

The joint self-government on the other hand detects a surplus of pediatric care in the vast majority of districts (Fig. 2, left-hand map). The criterion for this assessment of the state of healthcare provision is the “degree of provision”. This method maps the number of physicians required for needs-based allocation under the allocation scheme in relation to the actual number of physicians. A degree of provision of 110 percent is taken to indicate a surplus of health care. A comparison of the allocation scheme with the needs index (Fig. 2, middle and right-hand maps) reveals that there is a considerable disparity between the number of pediatricians in the northeast and in the southwest. The new scheme makes this situation even worse.

As a result, the number of regions in which the density of pediatricians does not correspond to the regional variations in needs will rise from 70.4 percent at present to 75.1 percent.

For the other groups of specialists, the situation is much the same: Here only minor improvements are discernible (Table 3). In the case of gynecologists and urologists, the situation will be exacerbated, even if not so dramatically as in the case of pediatricians.

Density of general practitioners compared to needs index

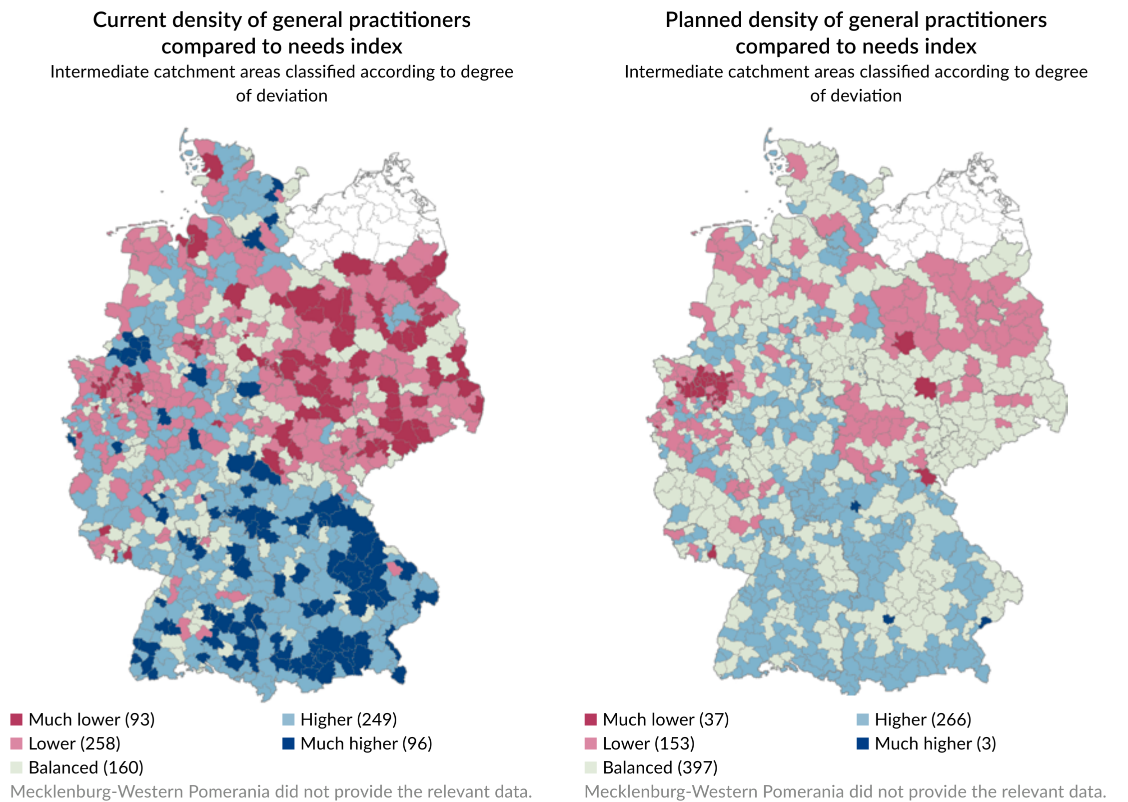


Fig. 3 | Source: Healthcare Fact Check 2014, data and calculation IGES Institut. BertelsmannStiftung

The sobering conclusion: The new allocation scheme does not result in a more needs-based distribution of specialist physicians. Detailed results can be found at www.faktencheck-aerztedichte.de.

General practitioners: New allocation scheme produces improvements

As it stands, the new allocation scheme improves matters only in the area of general practice. Here the number of regions in which the density of general practitioners deviates from healthcare needs will fall from its current level of 81.3 percent to 53.6 percent.

Measured by the standard of regional variations in healthcare needs, the present allocation of general practitioners reveals a distinct east-west divide (Fig. 3, left-hand map). Whereas the federal states in eastern Germany have a much lower density of physicians than needs would indicate, in western Germany, especially in the south, the number is disproportionately high. This imbalance will not be rectified by the new allocation scheme, but it will be somewhat moderated – as can be seen from the dark blue and dark red districts giving way to gray

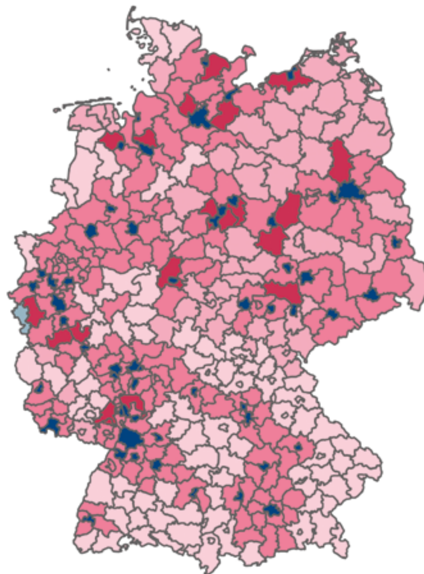
Percentage of districts in which the density of physicians deviates from the need

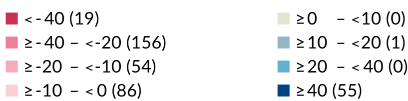
Group of physicians	Current density	Planned density	+ / –
ENT specialists	78.4 %	78.4 %	0 %
Gynecologists	81.8 %	81.0 %	+ 0.8 %
Neurologists	83.0 %	79.2 %	– 3.8 %
Ophthalmologists	72.9 %	66.5 %	– 6.4 %
Orthopedists	79.8 %	77.9 %	– 1.9 %
Pediatricians	70.4 %	75.1 %	+ 4.7 %
Psychotherapists	81.7 %	77.6 %	– 4.1 %
Urologists	69.9 %	71.9 %	+ 2.0 %
General practitioners	**81.3 %**	**53.6 %**	**– 27.7 %**

Table 3 | Source: Healthcare Fact Check 2014/2015, data and calculation IGES Institut. BertelsmannStiftung

Density of psychotherapists: Effect of a standardized density ratio

Planned density of psychotherapists compared to needs-based allocation
Planning districts (deviations as percentages)





Density of psychotherapists on the basis of a standardized density ratio compared to needs-based allocation
Planning districts (deviations as percentages)

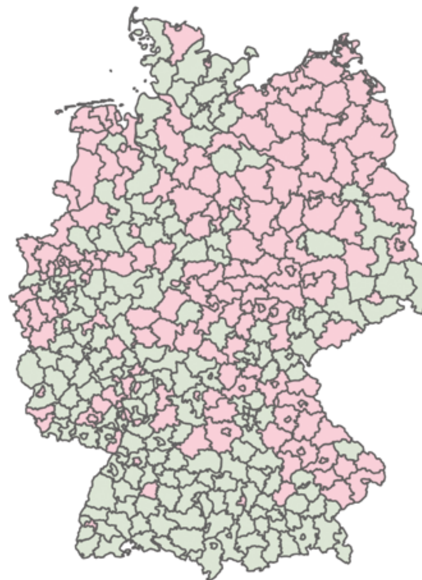


Fig. 4 | Source: Healthcare Fact Check 2014, data and calculation IGES Institut. | BertelsmannStiftung

districts in which the healthcare needs and the density of general practitioners are roughly the same (Fig. 3, right-hand map).

These beneficial effects in the planned allocation of general practitioners are achieved mainly through two fundamental changes in the terms of reference issued by the Federal Joint Committee (allocation planning guidelines):

1. For the first time, a standardized nationwide density ratio is defined for the number of general practitioners per head of population which no longer takes the type of region (e.g. city or rural area) into account.
2. Smaller geographic divisions are used for the planning of general practices (intermediate catchment areas), in other words at municipal rather than district level. This enables more precise regional healthcare planning to be achieved.

The physician-to-population ratio is the decisive factor

The relationship between a more uniform regional allocation and needs-based healthcare provision can be clearly illustrated by taking psychotherapists as an example: If a nationwide ratio were to be defined – as it is for general practitioners – this alone would give rise to a much more needs-based provision of health care. In order to demonstrate this effect, the needs-based allocation of medical practices is compared below to

a) an allocation of medical practices under the new allocation scheme without a standardized nationwide density ratio (Fig. 4, left-hand map) and
b) an allocation of medical practices on the basis of a standardized nationwide density ratio (Fig. 4, right-hand map).

A comparison of the two maps clearly reveals that the nationwide density ratio alone is sufficient to reduce the spread of needs-based variations between the various districts. The physician-to-population ratio is therefore the key factor in establishing more needs-based health care – irrespective of whether planning is carried out at district or municipal level.

Internet tip

Healthcare Fact Check – Density of Physicians uses interactive maps of all regions of Germany to show whether the planned allocation of medical practices corresponds to the variations in regional needs or to what extent it deviates from these needs.

Further information at faktencheck-aerztedichte.de

Recommendations for action

In principle, the measures introduced by the government should also facilitate a more needs-based allocation of specialist medical practices. At national level, the Federal Joint Committee (G-BA) composed of health insurers' and physicians' associations together with patients' representatives can autonomously set the parameters for allocation planning – in respect of the ratios of physicians per head of population. At state level, the state associations of statutory health insurance funds and associations of statutory health insurance physicians who are responsible for the specific planning can deviate from prescribed parameters in order to take regional features into account in the interests of a needs-based provision of health care. The following recommendations and proposals for improvement are therefore directed at the joint self-government at both federal and state level:

Reduce the imbalance between urban and rural areas

- In order to reduce the imbalance between urban and rural areas in healthcare, the spread of density ratios – determined through the allocation scheme guidelines of the Federal Joint Committee – should be reduced considerably, depending on the type of region.
- For individual groups of physicians (e.g. pediatricians or psychotherapists), a standardized density ratio (physician-to-population ratio) should apply nationwide – as it does for general practitioners.

Bring allocation schemes more into line with actual needs

- In order to bring the allocation of physicians more into line with the actual need for health care and to monitor more successfully whether the planning goals have been attained, allocation planning should in future be based on morbidity factors (e.g. mortality and long term care dependency) and socio-economic factors (e.g. unemployment and income).
- The "degree of provision" carried over from the early days of allocation planning should be replaced by empirically-based needs parameters (needs index).

Change-based and goal-oriented allocation

- In addition, the allocation planning scheme should also take future population development (prospective demography) in the regions into account – and this information should be used to derive specific planning goals for clearly defined periods (e.g. for the coming five, ten, fifteen and twenty years).

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Further information at faktencheck-gesundheit.de