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The division of labour between ambulatory care and inpatient care - Comparison over time and regional variability

Czihal T • Özkan A • Gerber C • von Stillfried D

Abstract

Background

The division of labour between ambulatory care and inpatient care system is subject to constant transformation. Overall, at least for the past decade, the literature reveals a trend toward an increasing share of ambulatory care as a substitute for inpatient care. This phenomenon, for which the term "ambulatisation of medicine" has been coined, can also be observed for Germany. But, as many experts have pointed out, there is still a large potential for ambulatory care in Germany to be exploited in order to further reduce utilization of inpatient care. It has been hypothesized that the expected additional health care spending associated with the demographic aging of the German population could be reduced by increasing the share of ambulatory care in total health care. However, the extent to which this could be implemented in Germany and the economic scope of such a change remains to be quantified.

Methods

This report is based on the assumption, that the regional differences in the division of labour between inpatient and ambulatory care in Germany can be used to create a realistic benchmark of best-practice which could be used to target desirable structural changes in other regions within Germany. The term best-practice in this context refers to the notion that for a population with a given risk structure a minimum utilization of inpatient care is frequently used as indicator of the overall quality of the ambulatory care system.
We use regionally aggregated claims data for inpatient and ambulatory care from 2011 and 2012. Ambulatory care was provided by office-based physicians. Data on outpatient care provided by hospitals was unavailable. The claims data base refers to statutory health insurance which covers roughly 90% of the population (approx. 72 million insurees). All claims data are attributed to the area of residence of the insurees. Utilization of inpatient care is measured by the number of inpatient days per insuree in the relevant population. Utilization of ambulatory care is measured by the number of claimed points per insuree according to the nationwide resource-based relative value scale.

In the first part of this report we identify best-practice regions among the 412 counties in Germany. These are defined as the 5 percent (21) of counties where, after standardization for demographic profile (age, gender, morbidity level and social structure) of the resident insurees, utilization of inpatient care per insuree is lowest while utilization of ambulatory care is at least average. By a simple projection we then impute the expected expenditure as a consequence of demographic change between 2011 and 2020 for a status-quo scenario as well as for a best-practice scenario. The best-practice scenario assumes that the average share of ambulatory and inpatient care for the 21 best-practice regions has been achieved in all counties by 2020.

In the second part of the report we take a look at recent changes in the utilization of inpatient care between 2011 and 2012 according to causes of inpatient treatment (main diagnoses at discharge), and their regional variation, after standardization for demographic profile of the resident insurees. We contrast these developments in inpatient utilization with the changes in utilization of ambulatory care. We attribute utilization of ambulatory care to causes of treatment on the basis of the diagnoses documented per case (as defined by same patient and same practice within the same quarter of the year). For better overview we aggregate causes of treatment according to the chapters of the ICD-10 and to the

Zentralinstitut für die kassenärztliche Versorgung in Deutschland
Herbert-Lewin-Platz 3 - 10623 Berlin - Tel. (030) 4005-2450 - E-Mail: zi@zi.de
Zi

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administrative regions of the 17 Regional Associations of Statutory Health Insurance Physicians (which are equal to the 16 Federal States but for North-Rhine Westphalia with two Regional Associations). Because in ambulatory care there are no main diagnoses, it is unavoidable that utilization is counted more than once if the case has diagnoses from more than one chapter of the ICD-10.This descriptive analysis is provided as material for further discussion. A quantitative analysis of the likely potential for increased ambulatory share per region is not attempted.

Results

The clinical division of labour is driven by the provider structure. The 21 best-practice counties are characterized by a higher number of office-based physicians and fewer hospital beds per resident insuree. The 21 counties with the lowest ambulatory utilization inversely show a weak ambulatory provider structure and a higher number of hospital beds. In the status-quo scenario the additional expected expenditure (for inpatient care and ambulatory care) due to demographic change in 2020 amounts to 4 bn. Euro. In the best-practice scenario this additional expenditure reaches 2 bn. Euro. This indicates that changes in the clinical division of labour could potentially reduce future increases in expenditure.

Recent changes in the clinical division of labour indicate that the overall trend to „ambulatisation" is ongoing. Between 2011 and 2012 the number of inpatient days per insuree has been further declining in spite of demographic aging. However, there are marked differences according to diseases and region. We differentiate 17 regions and 20 disease aggregates (chapters of the ICD-10) which create a table of 340 observational cells. 175 cells (51 percent) show an increased utilization of ambulatory care and a decrease for inpatient care. The reverse shows only in 27 cells (8 percent). An increased utilization in both ambulatory and inpatient care occurred in 82 cells (24 percent), a decrease in both areas of care in 56 cells (16 percent). Especially neoplasms and injury, poisoning and certain other consequences of external causes show an increased utilization of ambulatory care and a decrease in inpatient care. Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified show an opposing trend.

Conclusion

Regional comparison may provide realistic benchmarks for desirable structural change throughout Germany given that best-practice examples have been established under the framework of the German health care system. Our findings regarding the structural differences of best-practice and worst-practice regions confirm earlier analyses in risk adjustment which show that regional provider structure does affect intensity of care or expected expenditure after adjusting for demographic profile of the resident population.

One notable result of this report appears to be that areas show up as best-practice regions which so far have been regarded as areas in oversupply of office-based physicians and in part of hospital capacity. The mostly substitutive relationship between ambulatory care and inpatient care obviously requires looking at both sectors simultaneously. This calls for a change in the present approaches to capacity planning in Germany. The qualitative issues involved would indicate that the regions need to have a strong role in delineating their concepts of best practice upon which capacity planning then would need to act.