



Polysomnography – What do we know about utilization in Germany?

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Abstract

Background: Polysomnography is a diagnostic method to identify relevant sleep disorders. After it had been established in inpatient care, it was approved on the basis of the evidence as an outpatient service in 2004. Since then certified physicians can claim reimbursement for it through their regional physician association as part of the regional collective contract with statutory health insurance funds. Since 2010 the reimbursement of polysomnography is subject to volume targets designed to ensure that total claims meet a morbidity-adjusted global budget (MGV). Given that polysomnography is a relatively new outpatient service in Germany the question arises whether a reasonable amount of the potential utilization is being capped by volume targets.

Methods: We take a look at regional variations in present utilization and try to identify the potential increase in utilization rates if e.g. volume targets for polysomnography were modified or lifted. Starting with a description of the current utilization (2007, 2008) we attempt to estimate the scope for the increase in utilization rates in the ambulatory care. To estimate the heterogeneity of service frequencies at the level of counties and cities within the outpatient and inpatient sectors, coefficients of variation were compared. The available database included the complete nationwide claims data for physician services in ambulatory care but only publicly available information on frequencies of inpatient procedures at county level. Information on therapeutic implications, especially on prescribed medical appliances (e.g. CPAP-breathing aids) was not available.

Results: The coefficients of variation for the utilization of polysomnography per 100,000 inhabitants are 0.988 for outpatient care and 0.685 for inpatient care. Compared to inpatient care the regional heterogeneity of utilization in outpatient care is almost 50% higher. However, taking the aggregated utilization in the area of residence for both sectors together, the coefficient of variation is reduced to 0.528. This suggests a certain degree of substitution between outpatient and inpatient care, and thus there appears to be an untapped potential for more utilization in the outpatient sector. This finding is underlined by a comparison of changes in utilization rates between 2007 and 2008. While utilization in total, i.e. across both sectors increased we observe a decline in the national average of inpatient utilization. The analysis shows regional peaks in utilization per inhabitant in regions with local sleep-labs which could indicate satiation. These regions needed to be looked at in greater detail, e.g. with respect to risk structure of patients and treatment rates. Other areas, however, are obviously underserved. Due to a lack of additional information on the adequate service frequency, we estimated expected utilization assuming that the utilization rate per 100,000 inhabitants reached the 75% (90%) - percentile of the present utilization across all counties and cities. This would amount to an increase in nationwide service frequency by 28% (77%) compared to 2008. If this increase in utilization happened entirely within the ambulatory care setting service frequencies would need to increase by 180% (390%).

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Conclusion: Contracting partners could use the analysis of regional variation to plan capacities to reach a more even utilization and to incentivize adequate access e.g. by adjusting target volumes to evidence of compliance-rates in treatment after polysomnography.