



Amputation rates of the lower limb in Germany – a regional analysis based on complete national hospital discharge data from 2011 to 2015

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Abstract

Background

Amputation of the lower limb is an irreversible surgical option that inherently affects the physical and psychological wellbeing of an individual, thereby impacting their quality of life. Health care always focuses on avoiding amputations and should be provided nationwide with the same quality. This study aimed to investigate regional variations in lower limb amputations across 402 districts in Germany.

Methods

Using complete nationwide hospital discharge data, we identified all cases with lower limb amputation between 2011 and 2015 in Germany. Regional variation was displayed using raw as well as age- and sex-standardized rates per 100,000 persons. The Systematic Component of Variation (SCV) was computed to compare the observed with the expected amputation rate on a district level. Funnel plots were used to display the Standardized Morbidity Ratio (SMR).

Results

During the observation period, the median lower limb amputation rate was 67 cases per 100,000 persons with a 6-fold variation between districts. This variation was independent from demographic differences. High amputation rates were particularly observed in the East and Southeast of Germany. The highest systematic variation was found for amputation heights toe/foot ray (SCV 11.8) and foot complete or mid-/forefoot (SCV 11.7).

Conclusion

In Germany, there are significant regional variations in lower limb amputation rates on the district level. The systematic variation is strongest within peripheral amputation heights. Especially in the East and Southeast of Germany, clusters of high amputation rates give insights into potential regional needs for improvement in health care.

Keywords

Administrative data, amputations, diabetes, hospital, regional analysis

Citation

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