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Short report

Regional variation in access to and quality of acute stroke care 2014–2020: Results of Germany's Health System Performance Assessment pilot

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Abstract

Background
Health System Performance Assessments (HSPA) and analyses of unwarranted regional variation in health care both aim at identifying strengths and weaknesses of health systems to improve care. Applying HSPA's conceptual approach of interrelated health system dimensions (e.g., access, quality) to regional levels might help to better understand variation in care to reduce inequity and improve performance.

Methods
We use four indicators identified and analysed in a pilot study for a German HSPA to assess variation in access to and quality of acute stroke care between Germany's 16 federal states and urban vs. rural regions from 2014 to 2020. Stroke unit (SU) density, share of the population reaching a SU within 30 min by car, share of inpatient stroke cases treated in a hospital with a SU, and inpatient mortality were computed based on hospital quality reports and discharge data covering all acute care hospitals. Inpatient mortality was adjusted for age, sex, stroke type, and comorbidities.

Results
About 500 SU were identified, i.e., 2.0 per 1,000 inpatient stroke cases. Almost 95% of the population could reach a SU hospital within 30 min (rural: 90%; urban: 99%; >88% in all states but one). The share of inpatient stroke cases treated in a SU hospital increased to 93% with a decreasing span between rural (92%) and urban (95%) regions and between states (74%–98%). Inpatient mortality stagnated around 8.5% and increased to 9.0% in 2020 (rural: 8.7%; urban: 9.2%; states: 7.0%–9.7%, one outlier of 13.3%).

Conclusion
The results especially revealed varying performance patterns in access to and quality of acute stroke care between the federal states, indicating different areas for improvement which might be addressed by more targeted policy measures in the future.

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Keywords

Health System Performance Assessment; inpatient mortality; Stroke; Stroke Unit; unwarranted regional variation

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