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Abstract

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Nature of the paper (check boxes)

☐ report on implementation project / experience / policy perspectives

☒ scientific research a) describing work in progress ☐ b) new methods ☐ c) presenting results ☒

Title

Analysis of regional differences in distances between practices. Results from the DMP bronchial asthma in North Rhine, Germany

Background

In Germany (North Rhine Region) in 2006 a disease management program (DMP) for bronchial asthma has been started, focusing on definition of quality goals to be achieved, standardized documentation and feedback reports for the treating physicians. Patient education courses and cooperation of physicians are an important part of DMP implementation. There are regional differences regarding the offer of patient education and accessibility of specialist care.

Objectives

The main objective was to examine whether the average distance or the average travel time to the next three partaking pneumologist practices influences for asthma patients either the chance for the participation in structured patient education or of a referral from a general practitioner to a specialist or of the DMP bronchial asthma participants.

Methods

We used standardized medical records from general practitioners (GP) in the ambulatory setting in 2013 (n=2.633). For each GP we calculated the average travel time and the distance to the next three pneumologist practices (n=159). Participating GP practices were divided into quartiles according to distance and time to the next three pneumologist practices.
We conducted univariate and multivariate analysis with 72.695 adult DMP participants. Odds ratios and 95%-confidence intervals were calculated.

Results

10.149 (39.6 %) adult DMP participants took ever part in patient education programs after an invitation. 27.578 patients were at least once referred to a specialist during DMP participation (40.4 %). Between a GP and a pneumologist practice the quartiles of average differ between 6.18 vs. 8.53 vs. 12.02min (travel time) and 2.26 vs. 3.77 vs. 6.22 km (distance).
Multivariate analyses demonstrate, that the logistic model indicates a negative association after adjusting for sex, age, duration of participation, degree of asthma control and comorbidities between the distance to the next three specialists and the participation in asthma education programs (up to OR 0.60; 95%-CI 0.53-0.68). A long distance as well as a high expenditure of time to the specialist reduce the chance to take part in education programs. A similar effect can be recognized for the average travel time to reach the next three pneumologists (up to 0.75; 95% CI 0.63-0.89). The same negative association applies to the referral of patients to a specialist (up to OR 0.83; 95%-CI 0.80-0.87 for a long distance and up to OR 0.88; 95%-CI 0.84-0.92 for a long driveway).

Conclusion/Discussion/Policy Perspective

The results point out that the location of the medical practice might play a critical role for the utilization of patient education as well as for cooperation between the partaking physicians of different medical disciplines. A long distance between GP and specialist obviously hinders patients from following the advice of the treating physician.
It has to be considered that the participation in a patient education course is a voluntary offer to the patients which they do not need to follow. Further it remains unclear whether the patients really attend a specialist after a referral. The fact, that patients do not take part in a patient education might likewise be connected to unknown factors like regional social disparities in the North Rhine region.

Literature