THE WENNBERG INTERNATIONAL COLLABORATIVE POLICY CONFERENCE

Tracking Regional Variation in Healthcare
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Abstract

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ZENTRALINSTITUT FÜR DIE KASSENÄRZTLICHE VERSORGUNG IN DEUTSCHLAND

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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

What is the value of virtual network analysis for individual physicians?

Background

Geographic analyses of health care and atlases regularly show variation of care by comparing the averages of indicators for regionally aggregated institutions or geographically defined populations (e.g. by area of residence). While the analyses focus on variation between the selected geographic areas it remains largely unclear to what extent the regional averages are representative for the care in the respective regions, or what the variation within the respective regions looks like. Therefore the aggregated measures sometimes appear to have little relevance to the indivual experience of patients living in and providers practicing within the respective regions. Also it remains unclear, which patient subpopulations would actually profit most from changed practice and which providers or provider groups could contribute most to improving a region's average for the selected indicators of care. This is particularly true for health care systems which offer patients free choice of providers - as e.g. in the German healthcare system - and in which there are no geographically defined limitations of choice or subscriptions lists.

Objectives

To establish a method of measuring variation among populations according to accountability for care which can be linked to geographically defined area indicators of care. Ideally, this should be suited as a base for a feedback system which allows physicians to compare their patient populations to other populations in the area and to see if their patients are treated "better or worse" than the regional average. In other words, the question "what is my contribution to the regional average of care?" should become answerable.

Methods

Based on a total claims data base for ambulatory care of all statutorily insured patients in Germany (N patients ~ 70 million, N physician practices ~ 100.000) all patients with residence in a given area are attributed to a set of providers which as a group were accountable for the total care these patients received. This is done by identifying the GP who provided 'most' primary care (based on number of contacts or value of claims) to the patient and allocating the patient plus all other physician contacts of this patient to this GP. As a result the population is divided up in subpopulations whose ambulatory care is complety accounted for by a virtual network of physician practices, irrespective of the location of these practices. The size of subpopulations and the coherence of the virtual networks has been analyzed to identify specific patterns e.g. according to metropolitan/rural areas. Effects of risk adjustment were explored. Parameter values of area indicators (for the geographically defined populations) were compared to the parameter values for the subpopulations of the virtual networks.

Results

While there seems to some distinct differences in utlization and subsequent structure of virtual networks in metropolitan and rural subpopulations no specific effects on the parameter values could yet be identified between metropolitan/rural areas. The degree of variation does not appear to be fundamentally related to provider structure or utlization patterns not to size of the virtual network but to behavorial patterns or to unidentified risk factors such as social structure of patient subpopulations which could yet be explored in detail. Particularly large degrees of variation between subpopulations/virtual networks have been observed for indicators derived from positive guideline recommendations ("dos") as compared to negative recommendations ("dont's"). Regional comparison seems to indicate that there are regionally distributed variables affecting the level of the distribution between subpopulations/virtual networks, e.g. a systematic greater change for patients in some areas to be treated in accordance with guideline recommendations than in other regions.

Conclusion/Discussion/Policy Perspective

This is work in progress and needs to be continued. The method seems to capture the varying pattern of utilization, degrees of cooperation, and behavioral patterns that otherwise confound comparison of indicators of care across individual physician practices. It may provide a better understanding of the meaing of parameter values of area indicators. A differentiation between regionaly distributed variables, systematic patterns without regional meaning, and behavioral influences may result from this approach. So far, based on pseudomized data no specific reasons for the observed variations can be given. Next steps should be to repeat the analyses for specific regions based on given provider identies and to enter into discussion with specific provider groups (virtual networks) at opposing ends of the parameter values of selected indicators to generate hypotheses of causal influences for further testing.

Literature

Bynum et al (2007) Assigning patients and their physicians to hospitals: A method for obtaining populations-based provider per-formance measurements. Health Services Res 42(1):45–62.

Von Stillfried, Czihal T. (2014), Welchen Beitrag liefern funktional definierte Populationen zur Erklärung regionaler Unterschiede in der medizinischen Versorgung?